# STRAUMANN® CARES® VISUAL 8.0

## SOFTWARE MANUAL

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**SIMPLY DOING MORE**
FOR DENTAL PROFESSIONALS

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# 1. INTRODUCTION

## 1.1 Foreword

The Straumann® CARES® Visual software is a CADCAM system for use in dental laboratories. The system supports the dental technician in acquiring accurate digital data on the jaw and die, in modeling corresponding frameworks and transferring automatically generated milling information in a controlled digital workflow to a Straumann CADCAM milling center. The system also allows sending automatically generated milling information to other milling centers through an open STL file.

## 1.2 About this manual

This user manual is intended to give a basic understanding and overview of the Straumann® CARES® Visual 8.0 software which is based on the Dental Wings Open Software (DWOS®) architecture.

## 1.3 Validated workflow

Straumann is committed to provide its customers with high-quality products and services. The Straumann® CARES® Visual 8.0 **Validated Workflow** gives customers access to the Straumann milling centers and is designed to offer a controlled and predictable product outcome.

The parameters in the Straumann® CARES® Visual 8.0 Validated Workflow are preset and validated and achieve customers high-quality milled products.

Some functionalities described in this manual may not be available in the validated workflow.

## 1.4 External workflow

The Straumann® CARES® Visual 8.0 software is built on the Dental Wings Open Software architecture. Straumann® CARES® Visual 8.0 has a supported validated workflow. In addition, Straumann is offering its customers the Straumann CARES® Visual 8.0 **external workflow**. This provides our customers the opportunity to get access to third party milling centers by using open STL.

## 1.5 General precautions

The CARES® Visual software contains several precautions which are developed to inform you about incorrect use of the CAD modules and its functionalities.

- Please be aware that critical design parameters are preset for correct and predictable outcome—incorrect use could lead to breakage or damage of the prosthesis.
- The visual information which occurs on the design in red or yellow colors refers to an incorrect dimension and enforces you to perform corrective action.

Further precautions can be found under the respective chapters in this manual, please ensure you have read them before using the software.

To ensure that the design is as expected, always check the prosthesis on the model before placing it in the patient's mouth.

# 2. GENERAL OVERVIEW

## 2.1 Starting Straumann® CARES® 8.0 system

Turn on the workstation and the scanner using the power switch. After switching on the system, the left (green) LED on the scanner will light up. Windows operating system will start and asks for your login to start the applications.

## 2.2 my.Straumann® CARES® Desktop

The my.Straumann® CARES® Desktop is built on the dental expertise of Straumann and navigates you through the variety of options within the Straumann® CARES® Visual 8.0 System – it starts when you turn on the workstation and/or the scanner. Use your mouse to switch between the tiles. Click on the symbols on the tiles to open an APP or click on an icon to access informative links.

## 2.3 Order identification and process

### 2.3.1 Order number

To use the Straumann® CARES® Visual 8.0 software, everything is associated to a unique order number. Generation of this order number is the first of four main steps most commonly used in the system. The four main steps are:

1. Create an order
2. Scan a physical model to create a 3D digital model
3. Generate the prosthesis design using the Straumann® CARES® Visual 8.0 software
4. Initiate an intended production choice:

   - **Validated Workflow** with access to Straumann milling center (see chapter Validated workflow 7 )
   - **External Workflow** with open STL for third party milling option (see chapter External workflow 8 )

The order number is used by the Straumann® CARES® Visual 8.0 modules to manage the case through the entire process. The number can be manually adjusted by the customer. However, with the final manufacturing management step, the order number will automatically get an additional Straumann® CARES® Visual order number (remote ID in the Order Management menu) to manage the order verification on the Straumann milling center side.

### 2.3.2 Routing

The Straumann® CARES® Visual 8.0 software provides tools to manage the progression of the order through the full CADCAM process. The software manages several operational steps after an order is created.

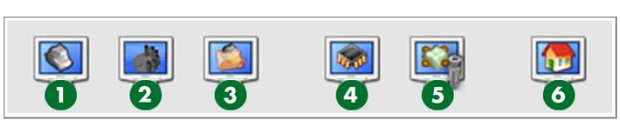
- **Scan**: The order is ready to be scanned automatically after an order is created.
- **Calculation**: Once an order is scanned, the data is ready to be processed by the Calculation module to automatically generate a proposed prosthesis.
- **CAD Station**: The proposal of the prosthesis is ready to be checked and customized.
- **Production Management**: The completed prosthesis design is verified and ready to be produced either internally or electronically sub-contracted.

The change from one operational step to another is referred to as to **route**.

- **Route forward**: usual production process from one step to the next (e.g. from scan to CAD)
- **Route back**: from the given step to the previous. This is most commonly used to check for potential design adjustments (e.g. routing from production to CAD to potentially modify the anatomy). Use the Order Management to route orders back to a previous step.

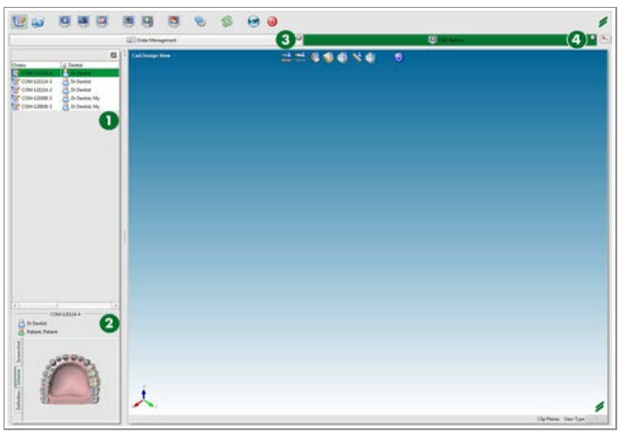
**Note**
When routing back from Calculation to Scanning, design and scan data will be lost in the process.

The Straumann® CARES® Visual 8.0 software automatically manages operational steps and routes forward. You can manually route an order forward or back. To start the arch scan, cylinder scan, scan import, calculation or the CAD Station, press the appropriate icon within the main toolbar as shown below:



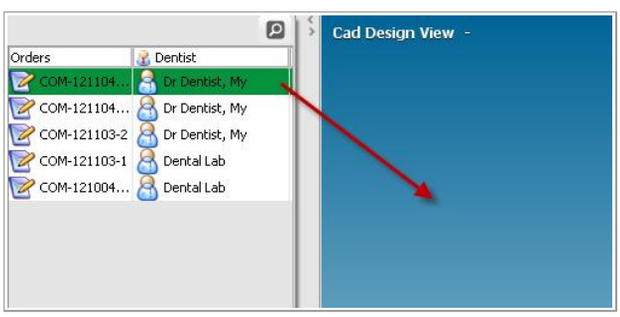

1. Arch scan
2. Cylinder scan
3. Scan import
4. Calculation
5. CAD Station
6. Production management

The Straumann® CARES® Visual 8.0 software automatically starts the selected application and displays the main window of that application. For ease of use, the applications follow the same format.



1. List of orders that can be processed by the application.
2. Information area of a selected order.
3. Several applications can be open simultaneously.
   To switch between applications, select the desired application **Tab**.

4. To exit an application, click on the **Exit** icon on the far right of the application tabs.
   - Double left-click on an order or drag and drop the order into the main view for use.



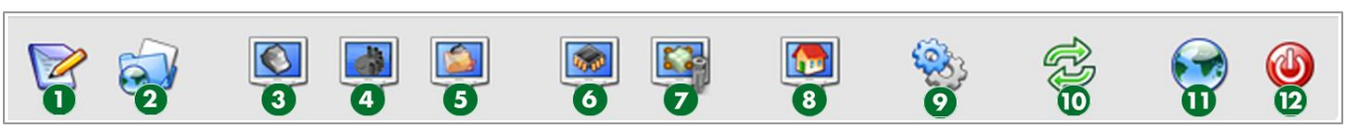

Orders can also be routed with the **Order Management**. For a detailed description see the Order Management109 chapter.

## 2.4 Basic user interface principles

### 2.4.1 Software general concept

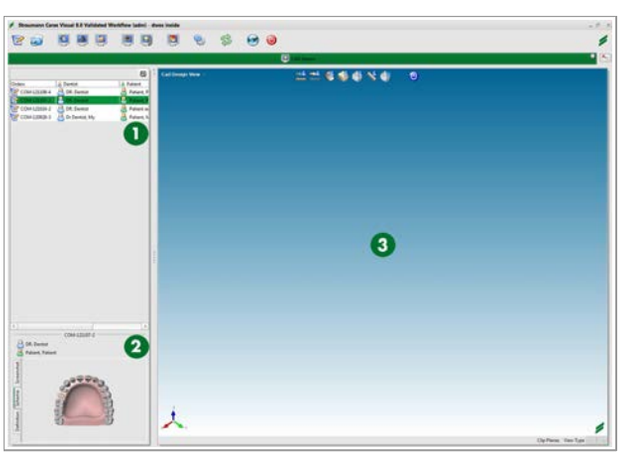
The Straumann® CARES® Visual 8.0 software is mainly icon-driven. The horizontal main toolbar is always displayed and allows you to access the main modules of the software, such as: Order creation, Arch or Cylinder scan, Calculation, CAD station, Production management etc. These modules describe, from left to right, a workflow.

1. Order creation
2. Inbox
3. Arch scan
4. Cylinder scan
5. Scan import
6. Calculation
7. CAD station
8. Production management
9. Settings
10. Refresh data from server
11. Default browser application
12. Exit

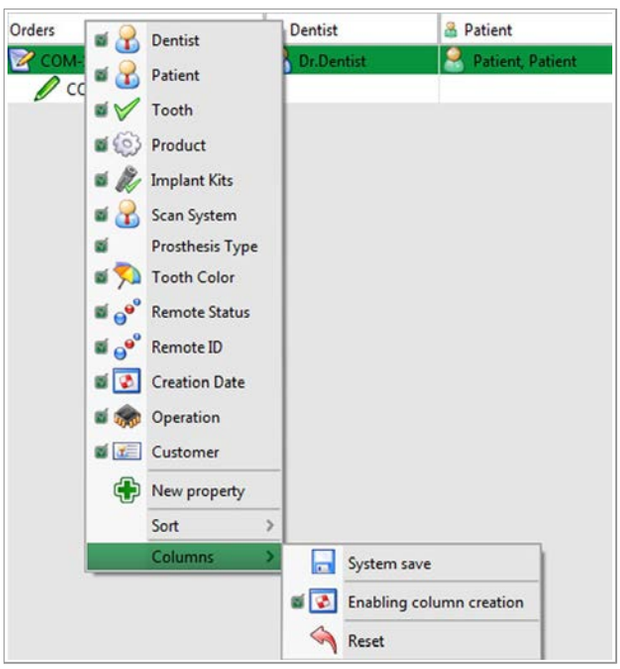



The window which is displayed when accessing a module and opening a tab can vary from module to module, but typically consists of the following three areas:

1. Order list
2. Order summary
   Both panes are used to display information.
3. Main application pane used, for instance, for the CAD station. This is your main workspace.
   To resize a pane, grab and move the separation bars.



In the **Order creation** module the organization of columns can be changed by a right click on the column header. You can remove columns or change column order by dragging columns. The new organization can be saved by going to **Columns** and then clicking on the **System save** icon. However, the order mask is fixed and columns cannot be edited there.




### 2.4.2 Mouse handling and view manipulation

The Straumann® CARES® Visual 8.0 software requires a mouse with two buttons and a wheel.

The options available for mouse interaction depend on the software module and/or tab.

| **General functions** | |
|---|---|
| Select menu or icon, define point | Click left mouse button |
| Validate definitions, access local menu | Click right mouse button |
| Zoom in/out | Scroll mouse wheel |
| Translate view | Press and hold mouse wheel + drag the mouse |
| Rotate view | Press and hold right button + drag the mouse |
| Generate cross-section of view | Press and hold **CTRL** + scroll mouse wheel |

| **General functions** | |
|---|---|
| Center and re-size view | Double-click left mouse button |
| Toggle perspective and parallel projection | Double-click right mouse button |

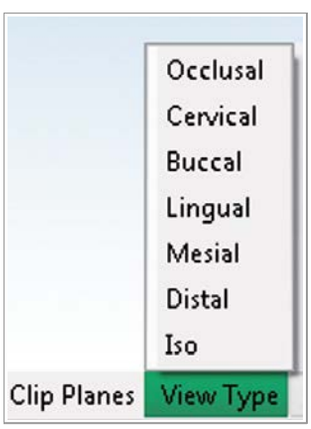
| **Special functions** | |
|---|---|
| **CAD station** | |
| Move object | Press mouse wheel |
| Activate clip plane<br>To deactivate clip plane, click **Unclip** in the view toolbar. | **CTRL** + scroll mouse wheel |
| **Multi-Designer** | |
| Add material | Tick **Add** and press left mouse button |
| Undo | Tick **Add** and use **ALT** + left mouse button |
| Remove material | Tick **Remove** and use **CTRL** + left mouse button |
| Smooth | Tick **Smooth** and use **SHIFT** + left mouse button |
| Erase | Tick **Eraser** and use **ALT** + left mouse button |
| Adjust current size | Press left mouse button + scroll mouse wheel |
| Adjust amplitude | Up/down arrow keys |
| Undo last design step | **CTRL** + **Z** |
| Redo last design step | **CTRL** + **Y** |

### 2.4.3 Display management

#### 2.4.3.1 View type, clip plane, slice views

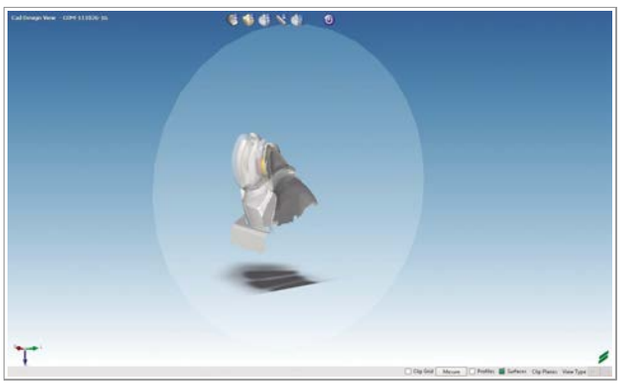
The Straumann® CARES® Visual 8.0 software displays in full 3D allowing you a complete view of the clinical situation and prosthesis under design.

Use the **View Type** menu in the view toolbar at the bottom right of the screen to switch between pre-defined view orientations.

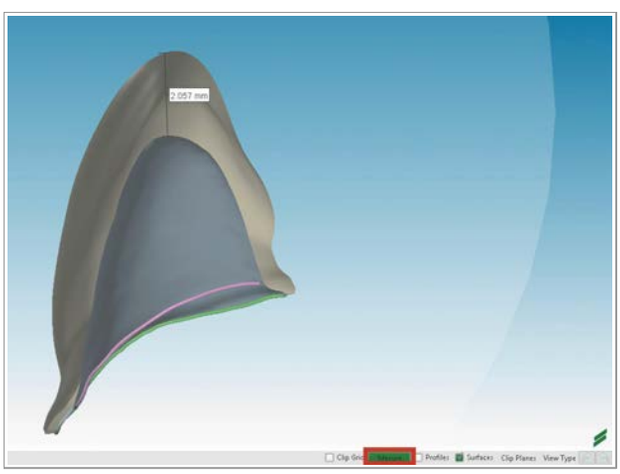



Use **Clip Planes** in the view toolbar to generate a cross-sectional view that is perpendicular to the selected axis.

An example of a cross-section in the mesial axis is shown. Press and hold the **CTRL** key while scrolling the mouse wheel to move the cross-section.

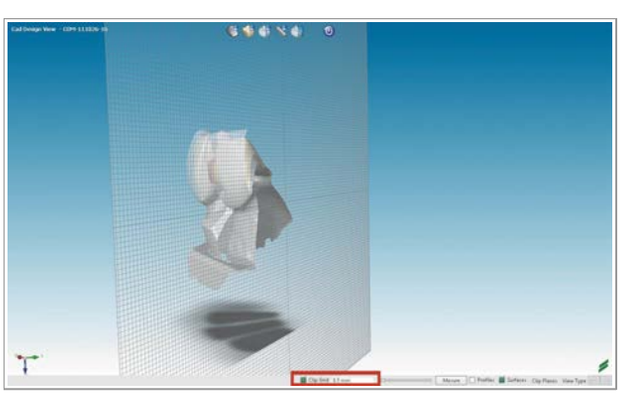


When using **Clip Planes**, you can also use another measuring tool by selecting the **Measure** button in the view toolbar. Then click and hold the left mouse button to define the start point of the measure while dragging the mouse to the desired end point. The measurement is dynamically displayed as the mouse is being dragged. The measure is made in the plane selected for the clip. To exit from **Clip Planes**, select **Unclip** from the **Clip Planes** menu.

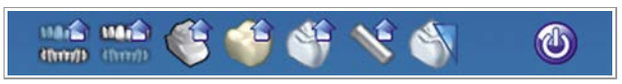


When using **Clip Planes**, you can display a measuring grid. To do so, select **Clip Grid** in the view toolbar.

The grid provides the user with a user-definable reference grid (default is 0.5 mm). To change the grid size, overstrike the numeric value (e.g. 0.5 mm to 1.0 mm) or simply drag the slider to increase or decrease the grid box sizes. Press and hold the **CTRL** key while scrolling the mouse wheel to move the clip grid.



### 2.4.3.2 Display buttons



Use the **Display buttons** at the top center of the main application pane to display or hide parts of the clinical situation and/or prostheses. The list of **Display buttons** changes according to the Straumann® CARES® Visual 8.0 application and the clinical situations.

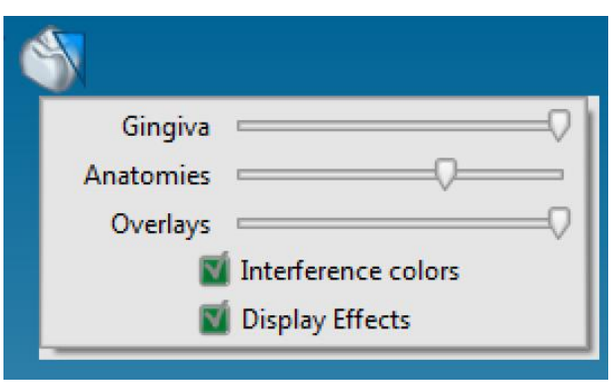
Each **Display** button (except for the transparency button) toggles as follows:

- An up blue arrow displays the part.
- A down red arrow hides the part.

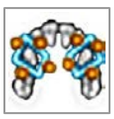
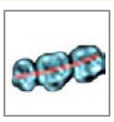
| Function | Icon | |
|---|---|---|
| Show/hide clinical situation (jaw) | | |
| Show/hide undercut (scan application) | | |
| Show/hide friction (scan application) | | |
| Show/hide antagonists | | |
| Show/hide anatomies | | |
| Show/hide prostheses (including connectors) | | |
| Show/hide connectors | | |
| Show/hide wax-up | | |

| Function | Icon | |
|---|---|---|
| Show/hide dynamic occlusion | | |
| Show/hide virtual articulator | | |
| Show/hide gingiva | | |
| Show/hide implants | | |

The **Transparency** button allows you to adjust the degree of transparency of the component parts of the clinical situation and/or prostheses. To adjust, use the slider as shown.




The **Scan Application** has a separate additional vertical toolbar for Arch Scan and Cylinder Scan with the following functions.

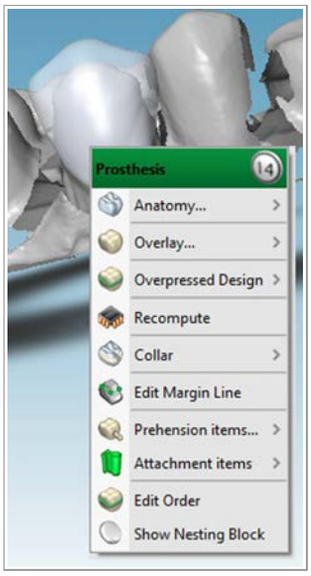
| Arch Scan application | Icon |
|---|---|
| Scan jaw | |
| Set adjacent points |  |
| Scan gingiva (global) | |
| Scan wax-up |  |
| Scan in cylinder | |
| Set margin line | |
| Occlusion key scan | |
| Scan antagonist | |
| Set scan options | |
| Open scanner lid | |
| Cancel scan | |
| Close Scan Manager and route to Computation | |

| Cylinder Scan | Icon |
|---|---|
| Start auto-computation | |
| Scan assigned dies | |
| Set next available margin line | |
| Review scans | |
| Clear plate | |
| Cancel scan | |
| Route forward | |
| Open Scanner Lid | |

### 2.4.3.3 Local menus

In the course of the scan and design processes, you will have to perform specific tasks on particular clinical elements (e.g. editing the margin line, adjusting contact points, etc.). These tasks can be done using specific local menus that are context sensitive.

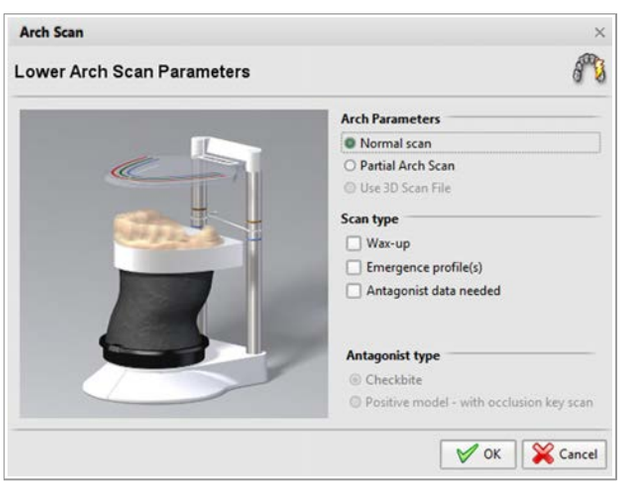
For example, the local menu of a die allows you to edit its margin, while the local menu of a prosthesis will allow you to adjust its contact points. To access these menus, place the cursor of the mouse over the element and press the right button of the mouse. The header of the local menu displays the tooth number.




### 2.4.3.4 Assistant

The Straumann® CARES® Visual 8.0 software includes a software assistant that guides you through a procedure.

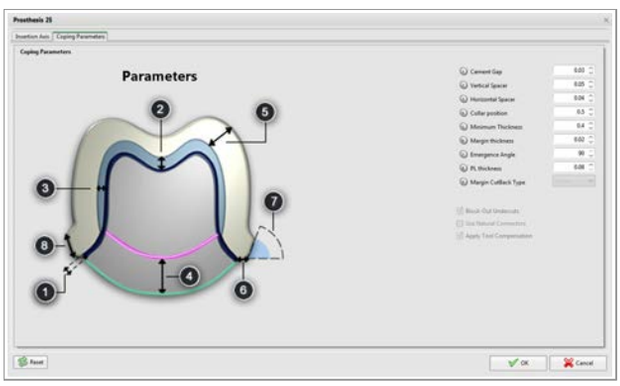
For example, during the scan process, assistants will prompt you through the scanning process.

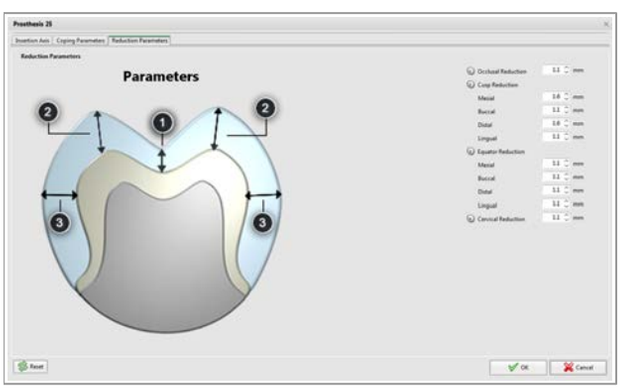


## 2.5 Parameter settings

The Straumann® CARES® Visual 8.0 software allows you to set the clinical parameters for the intended prosthesis design, such as type of prosthesis, thickness of coping, etc. These parameters are accessible through assistants. Parameters can be adjusted at different levels.

Parameters for Straumann® materials can be adjusted within a certain range of values depending on the specific material selected.




**Note**
More specific settings will override more general settings for the given order, material or dentist.

### 2.5.1 Units

All dimensions, such as size, thickness, distances etc. are set as default and interpreted in millimeters. All measured angles are provided in degrees.

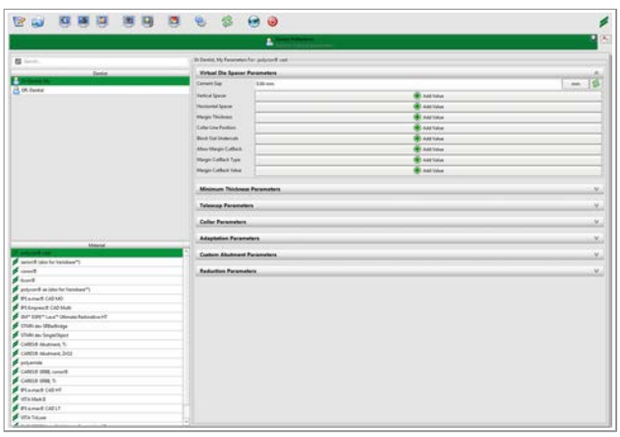
### 2.5.2 General adjustment

Default parameters used for all the cases within your lab can be adjusted using the Material management122 module.

Default parameter setting is available in the external workflow only.

### 2.5.3 Customized parameters

The defaults specified within the **Material Management** or preset by the validated workflow can be further adjusted for individual dentists and materials. Customized adjustments are possible within a certain range of values. Materials are always linked to a dentist.



To customize your parameters, open the **Settings** menu and select **Dentist Preferences**. See the Dentist preferences133 chapter.

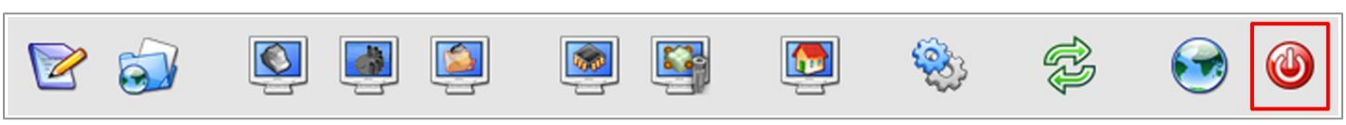
### 2.5.4 Local adjustment

All parameters can be further adjusted when designing a given prosthesis.

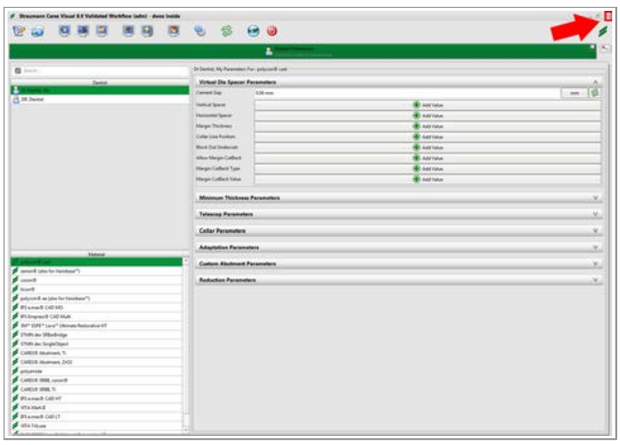
During scanning, parameters are queried by the software. In the CAD station, press **Recompute** to adjust parameters and recompute the initial proposal. It is also possible to adjust parameters when setting the insertion axis manually. The margin line can also be edited at a later time.

## 2.6 Exiting the software

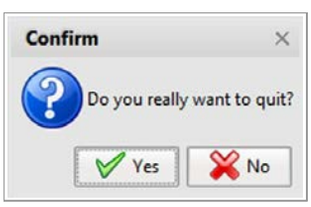
There are two methods to exit the Straumann® CARES® Visual 8.0 software. The first is to click on the red **Exit** icon within the main toolbar as shown below.



The second method is to use the **Close** button ("x") within the upper right corner of the main window:



With both methods, confirmation of your intention to quit the session is required. To confirm, select the **Yes** button as shown. Once confirmed, the exit request closes the Straumann® CARES® Visual 8.0 software client application on the current computer. If you are running a multi-station configuration, repeat the exit procedure on all PCs to completely shut down the Straumann® CARES® Visual 8.0 application.



# 3. ORDER MANAGEMENT

## 3.1 Dentist, patient and order management

The Straumann® CARES® Visual 8.0 software provides a default laboratory, dentist and patient for your convenience. To begin using the system, it is recommended that you define a new dentist. When a new order is opened, a new patient can conveniently be entered for a given dentist.

The following section describes the procedures for entering a new dentist, patient and opening a new order. But first, there is a brief overview of the relationship of these three components.

The Straumann® CARES® Visual 8.0 software manages data using a three-level architecture which is easy to use and is linked automatically (dentist, patient and order): A patient is linked to a dentist and an order is linked to a patient.

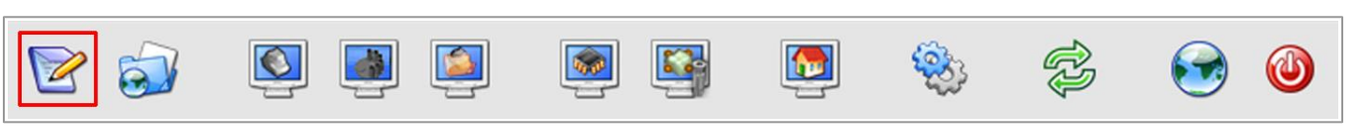
A patient and order cannot exist without these links. A dentist can be organized by country and clinic.

An order can contain several prostheses designs. For example, within the same model you may produce a single design on tooth 12 and a three-unit bridge design with teeth 15–16–17, all within the same order.

### 3.1.1 Creating a new order

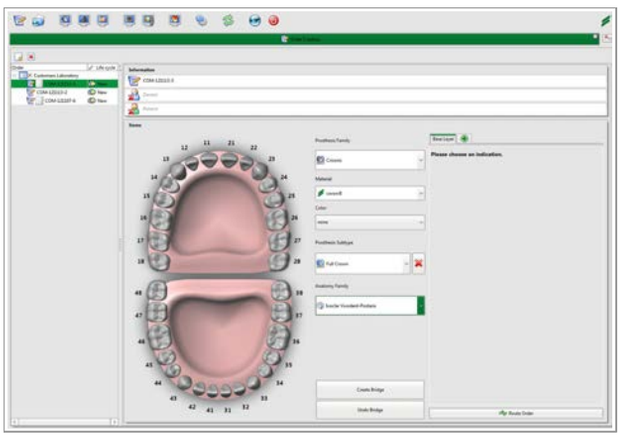
#### 3.1.1.1 Opening the order sheet

To create a new order, select the **Order creation** application icon within the main toolbar as shown below.



The main window of the **Order creation** application will then appear. Next click on the **New order** icon.

The order sheet will appear.



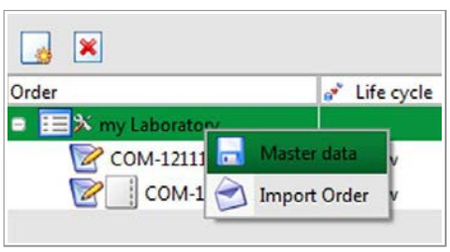
Note that an automatic order number is generated with the following format: CO M-yymmdd-order number of the day. Where "yy" is the year, "mm" is the month and "dd" is the day, followed by an increased number for each case opened that day to keep each order number unique.

Optional: The order number can be changed by overstriking the number within the field shown. This can also be done with the dentist name and customer information. Data will be transferred automatically to the customer database.

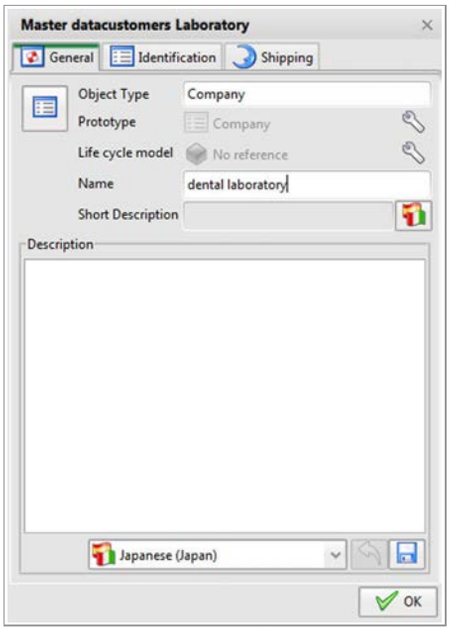
Proceed to the dentist and patient information.

### 3.1.1.2 Laboratory information customization

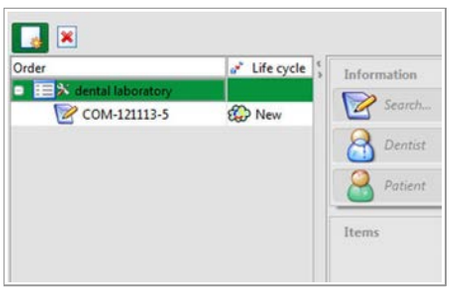
You can customize the information related to your laboratory. Right-click on **myLaboratory** and open **Master data**.



A window appears where you can modify the name of your laboratory.



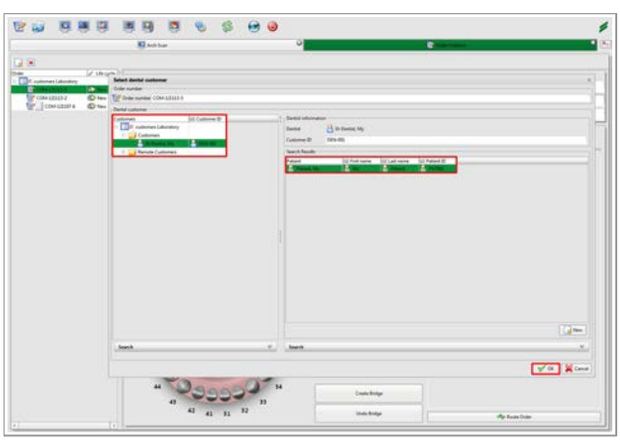

The laboratory name is then updated as shown. This name will be used to generate automatic file names for the production design files you create.




### 3.1.1.3 Defining dentist and patient

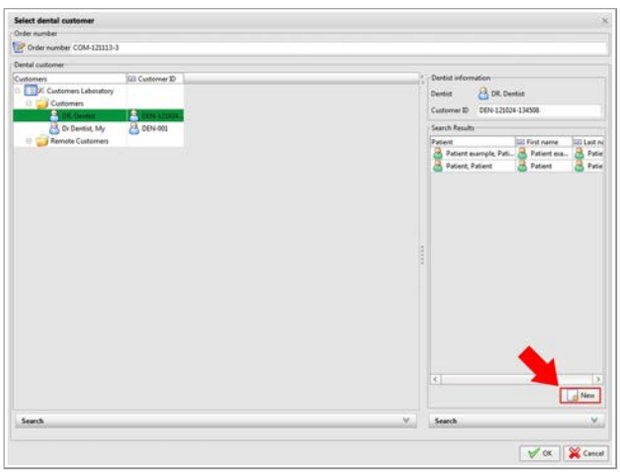
Next, define the dentist and patient for your order.

Click on **Dentist**. The **Select dental customer** window opens. Select a dentist and a patient from the list.



### Defining a new patient

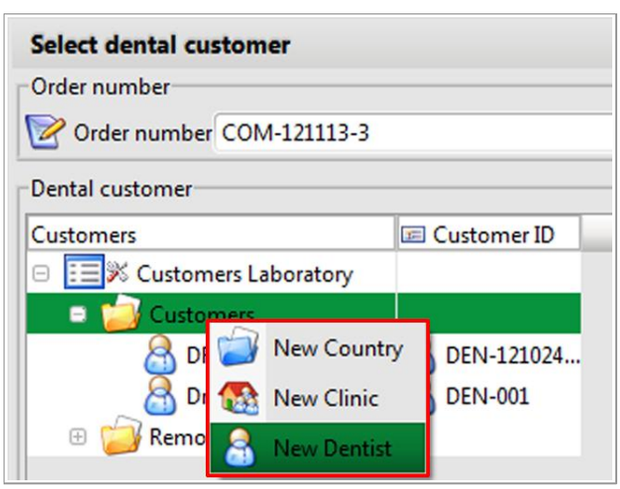
For a new patient, press the **New** button in the **Patient list.**



The **New patient** window appears. Enter the patient's first and last name and press **OK**.

### Defining a new dentist

Right-click on the customers, country or clinic level to access the local menu. Then select **New Dentist**. The **Master data dentist** window appears. Enter all the necessary data and press **OK**.

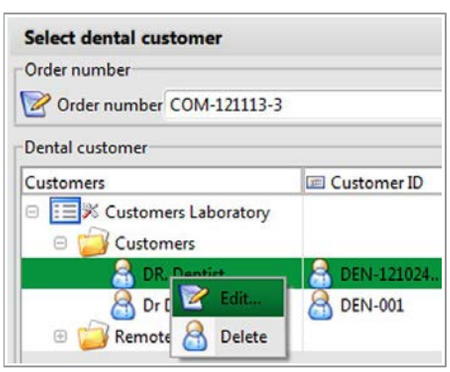


### 3.1.1.4 Editing dentist or patient data

Data associated to a dentist and a patient can be changed or deleted.

**Note**
When you delete a dentist or patient, such dentist/patient will not be available for new orders. However, existing orders for such dentist or patient will not be deleted within this process.

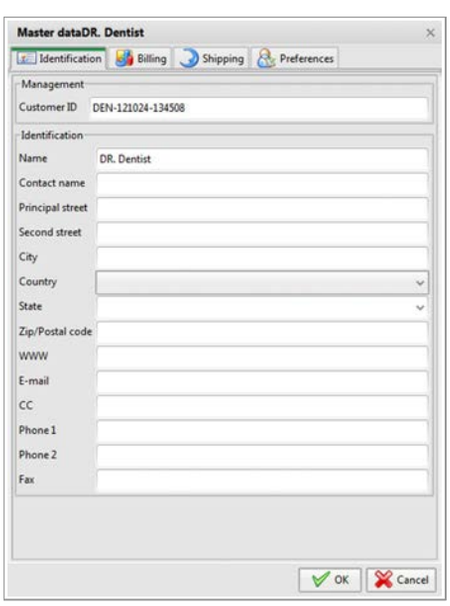
**Editing or deleting a dentist**
To edit or delete a dentist within the **Select dental customer** window, right-click on the customer list to access the local menu.




Then select **Edit** or **Delete**.

If editing a dentist, modifications can be made to the fields within any of the four tabs:

- Identification
- Billing (only available in the external workflow)
- Shipping
- Preferences



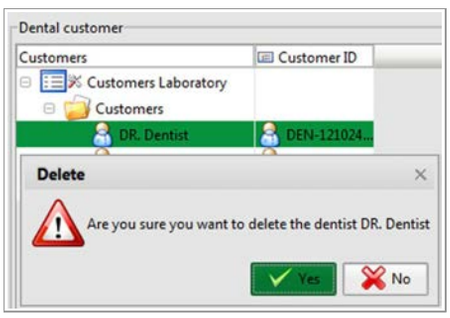

Click on the respective tab to activate it.

When changes are complete, click **OK** to save your changes.

If you want to delete a dentist, right-click on the dentist and select **Delete**. The system will ask for confirmation.

Click the **Yes** button to delete. A red cross will be displayed with the entry in the list, displaying that the dentist has been deleted.

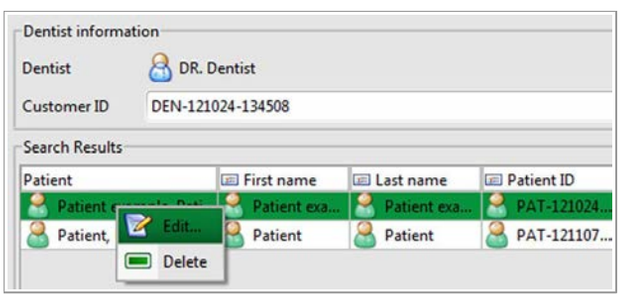
Next, select **OK** from the **Select dental customer** panel to exit. The dentist entry will be removed from the **Customers** list of defined dentists.



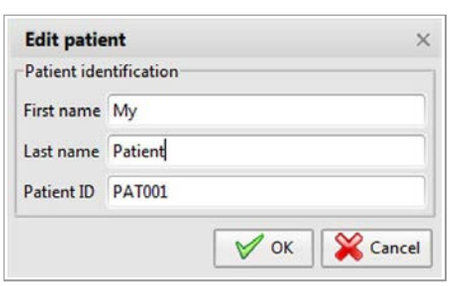

**Editing or deleting a patient**

To edit or delete a patient within the **Order creation** window, right-click on the customer list to access the local menu. Select **Edit** or **Delete**.

If you click **Delete**, the patient will instantly be deleted without any further confirmation.

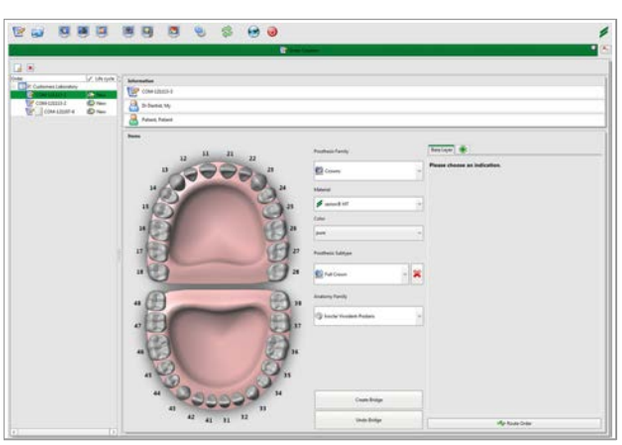



If editing, make the desired changes. Save your changes with **OK**.



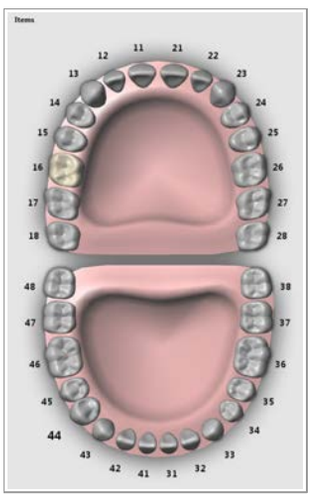

### 3.1.1.5 Specifying order details

Once the dentist and patient are defined, you can create a new order and the order creation window appears. Depending on the application and the clinical situation, the Straumann® CARES® Visual 8.0 demands the following definitions:



- Prothesis family (for further information see Prosthesis family overview141 in the annex)
- Material
- Color
- Implant kit
- Prosthesis subtype
- Anatomy family

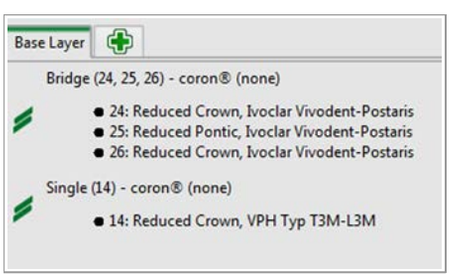
Define the tooth number by left-clicking on the tooth. The tooth will then be display as a representation of the selected type of prosthesis. If re-selected, using the right mouse button, the tooth selection is canceled. The selected tooth will be display as a picture of the chosen prosthesis type. To define a different prosthesis type, first change the active type that is displayed to the desired type, and then select the desired tooth.




**Note**

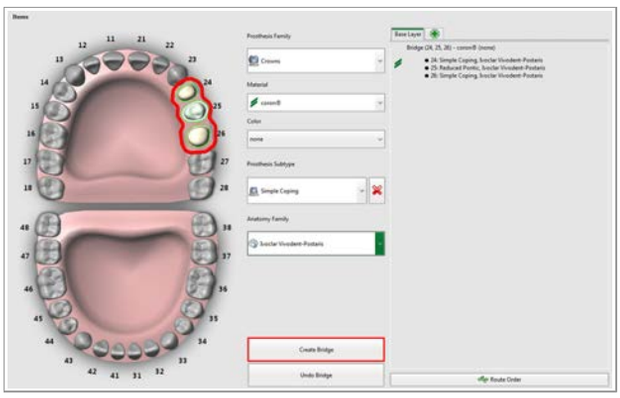
The American Numbering System can be set within the **User Preferences**. Click the globe icon located at the lower right of windows main screen, switch to the **User Preferences** tab and specify the **Numbering standard**.

The anatomy that will be used can also be changed during the CAD station. Details on each tooth definition are displayed as a list.

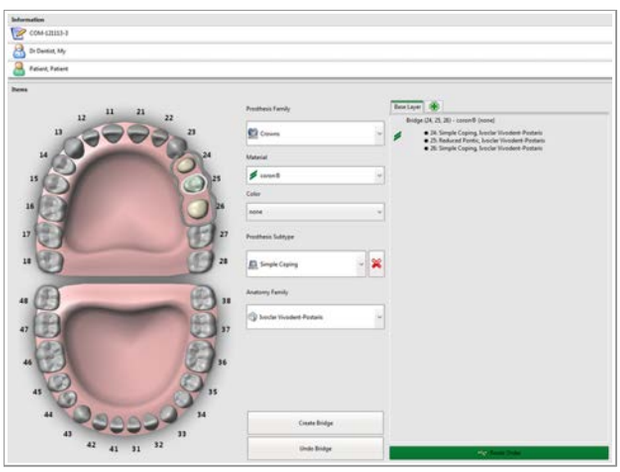

Base Layer
Bridge (24, 25, 26) - coron® (none)
24: Reduced Crown, Ivoclar Vivodent-Postaris
25: Reduced Pontic, Ivoclar Vivodent-Postaris
26: Reduced Crown, Ivoclar Vivodent-Postaris
Single (14) - coron® (none)
14: Reduced Crown, VPH Typ T3M-L3M

To create a bridge, select all the desired teeth. Left-click on each tooth included within the bridge. A green lasso will be shown around each active tooth intended for the bridge. Click the **Create Bridge** button. A gray lasso will be generated grouping the entire bridge.

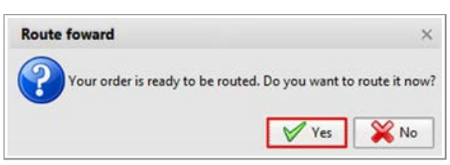
To reverse such a grouping, select the affected teeth and press **Undo bridge**.



Press the **Route Order** button to route the order forward.



Confirm with **Yes**. The new order creation procedure is now completed.

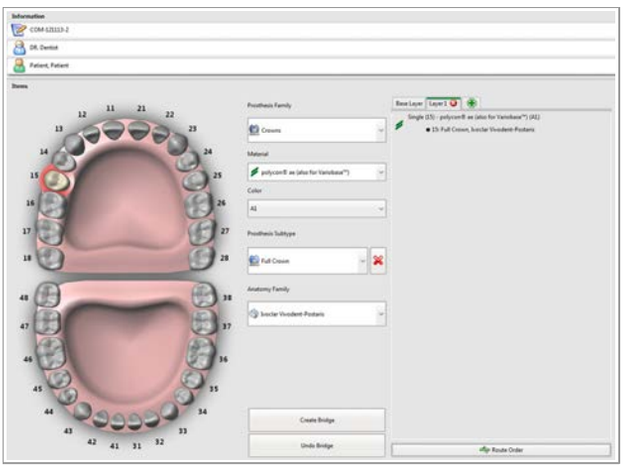


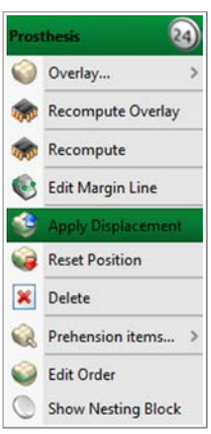

**Note**

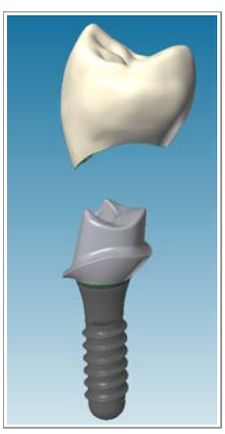
When you route an order which consists of several order items, all the items of such an order will be routed within this process.

### 3.1.1.6 Layer management

To create multiple layers, define the specific layers in the **layer manager** by clicking the **plus** icon to the right. After creating the base layer (e.g. abutment), add another layer for the restoration on top.





### 3.1.2 Routing

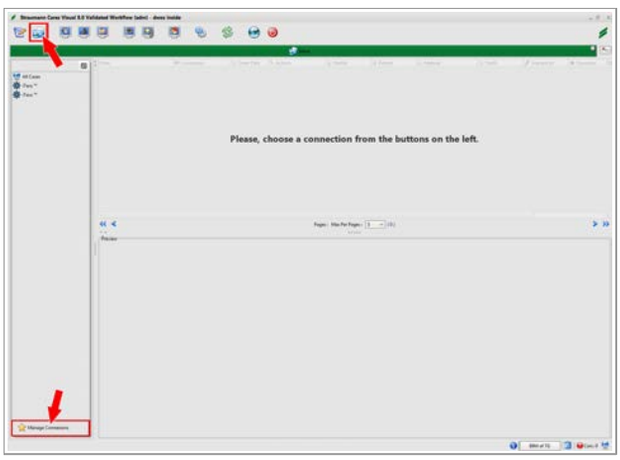
To change from one operational step to another, orders have to be routed between the modules of the software. Orders are routed to the next step with the **Route order** button.

For more details and options for manual intervention, see chapters Routing 10 and Order Management 109 .

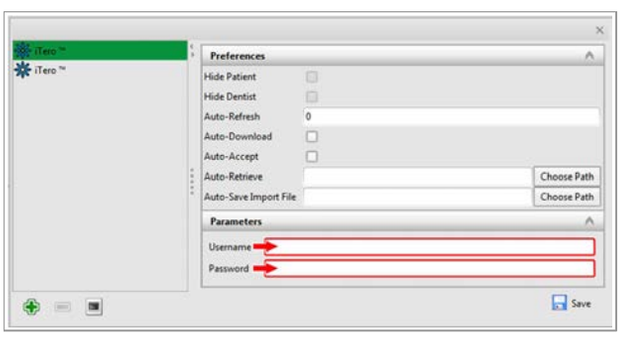
# 4. INBOX

The **Inbox** application allows you to import intra-oral data from a shared server to your Straumann® CARES® Visual 8.0 system.

Click on the **Inbox** icon and go to **Manage Connections**.




Enter your personal login when importing intra-oral data for the first time. Login data will be stored. When you are logged in, all downloadable projects from the shared sever will be displayed.

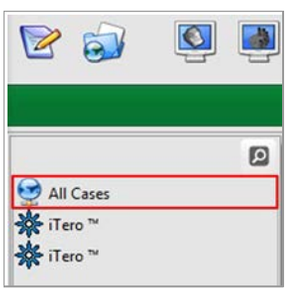


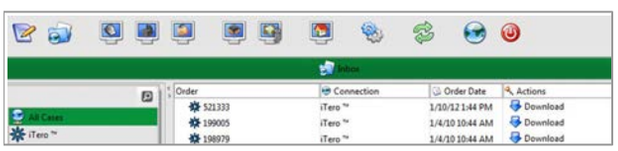
Adjust your preferences, if necessary. The **Hide Patient** and **Hide Dentist** options are not available for user adjustment.

| Preferences | Description |
|---|---|
| Auto-Refresh | Defines the interval in seconds for reading data from the server. |
| Auto-Download | If ticked, all files will be automatically downloaded from the server (depending on the selected CARES® links). |
| Auto-Accept | If ticked, all downloaded orders will be automatically imported (without any changes by the user). |
| Auto-Save Import File | After successful import the xorder file will be copied to the specified directory.<br>At a later point of time, the user can load and re-import the xorder file using the **Order Management**. |

Enter your CARES® user name and password and click **Save**.

Select **All Cases** to open the **Inbox** and to list all files. The status of the individual orders can be read from the **Actions** column.

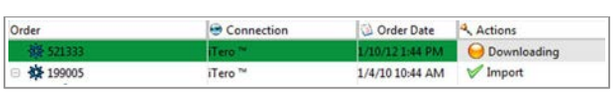


The following status messages can be displayed:

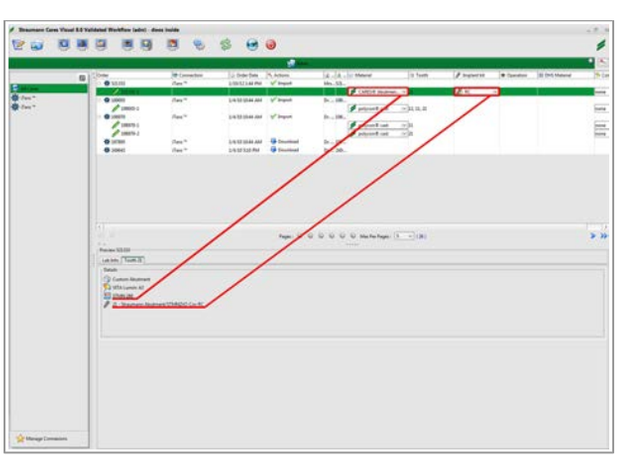
| Status message | Symbol |
|---|---|
| **Download**<br>The file on the server is ready for download. | |
| **Downloading**<br>The file is being downloaded from the server. | |
| **Import**<br>The file is ready to be imported after download from the server. | |
| **Importing**<br>The file is being imported. | |
| **Imported**<br>The file has been completely imported into your local system with material and implant kit information. | |

To download an order, click on the **Download** field in the **Actions** column. The blue **Download** icon will change into the orange icon for **Downloading**.



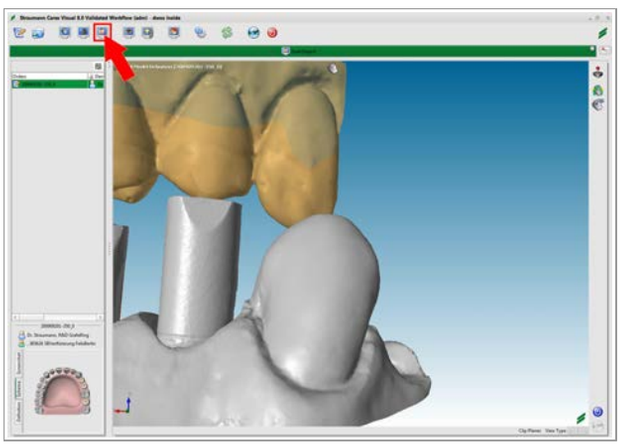

**Note**
To download multiple files, press **CTRL** or **SHIFT** on your keyboard and select the files to be downloaded.

After a download is complete, the order status will change to **Import**. Select the order and transfer the material as well as the implant kit information from the preview to the table columns. Click on **Import** in the Action column. The order has been completely imported if the Action column has changed to **Imported**.



**Note**
You have to transfer the information for each single abutment.

After successful completion of order import switch to the **Scan Import** application. Drag & drop the imported order into the main window.



# 5. SCANNING

## 5.1 Scanning in detail with Straumann® CARES® Scan CS2

The following items can be scanned with the Straumann® CARES® Visual 8.0 software:

- Complete model
- Up to six dies simultaneously (up to 32 in total)
- Neighboring teeth (in cylinder or on model)
- Bite registrations
- Wax matrix
- Dies with knife-edge, shoulder, chamfer and inlay preparation, according to type of restoration
- Wax-ups
- Abutments

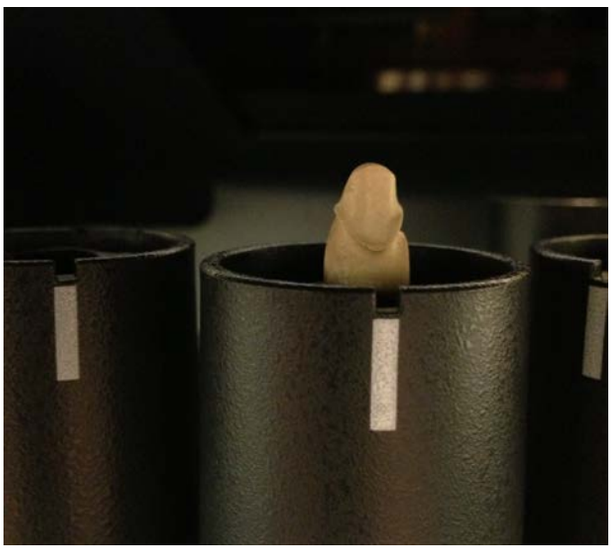
For copings you have to scan only the associated dies. To model bridges, you must scan the following items:

1. The model
2. The associated dies and, if required, the neighboring teeth
3. If necessary, a corresponding bite registration, antagonist model or wax matrix

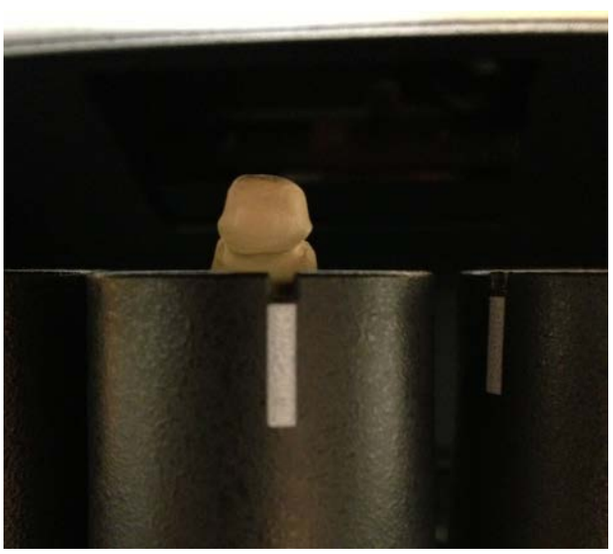
### 5.1.1 Requirements of the cut model

The following conditions should be fulfilled and the preparation types must be approved:

- Knife-edge preparation
- Shoulder preparation
- Chamfer preparation
- Inlay preparation



The preparation margins must be completely visible.



The surface of the dies should have the following features:

- Matt, non-reflecting surface
- Homogeneous color gradient

The design height must not exceed the material-specific blank height.

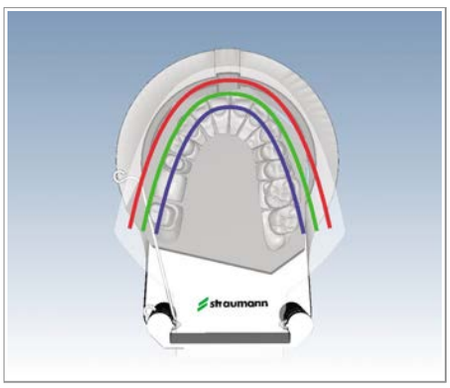
**Note**
The design height can be checked and compared to the blank height at any time by clicking on the **Construction dimension** icon.

### 5.1.2 Rules for scanning models

Please perform the following steps before starting the scanning process:

**Step 1**
Use the acrylic template to find the optimum position for the model. The model should be aligned according the following criteria:

- If the vestibular cusps or incisal edges are occlusal adjusted to the red line, the preparation lines must be aligned horizontal to the red mark.
- If the vestibular cusps or incisal edges are adjusted to the green line, the preparation lines must be aligned to the metal rod.
- If the vestibular cusps or incisal edges are adjusted to the blue line, the preparation lines must be aligned to the blue mark.




**Note**
Make sure that the mounting plate is engaged according to the positioning aid.

**Step 2**

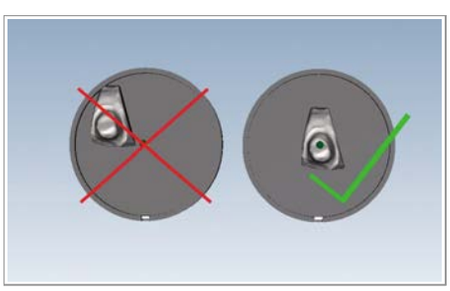
After opening the Arch scan application and dragging & dropping the order into the scan window, the lid will open. Place the model on the small plate in the scanner. Follow the instructions of the scan manager. Close the lid and start the scan.

**Note**

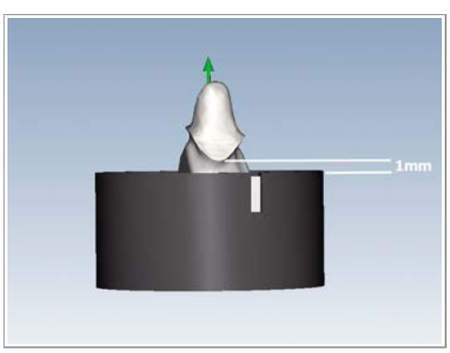
We recommend to position the model with the best possible insertion.

### 5.1.3 Rules for scanning with the scan cylinder

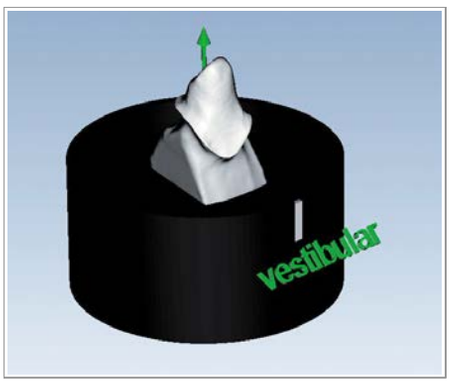
Each die should be positioned centrally.



The preparation line has to be at least 1 mm above the edge of the scan cylinder.

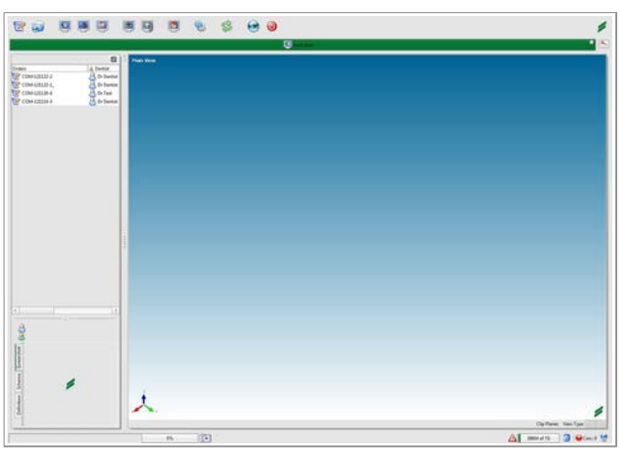


The vestibular side has to be aligned with the white mark on the scan cylinder.




### 5.1.4 Starting the Scan Application

Start the appropriate **Scan Application** (arch scan or cylinder scan) and select the desired order according to the order management process.



### 5.1.5 Setting your scan options

Use the **Arch Scan** dialog box to set your scan options, such as:

- Full Jaw Scan (Normal Scan)
- Partial Jaw Scan (not for screw-retained bars and bridges)
- Wax-up
- Emergence Profile
- Antagonist
  - Checkbite
  - Positive model (see double arch)

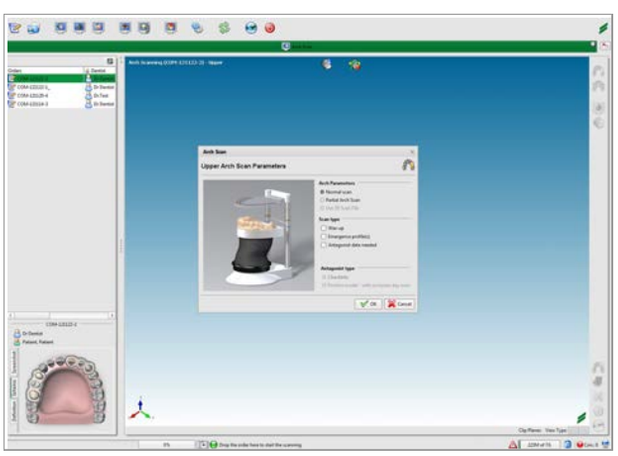
**Note**
Scan options can be changed afterwards. You can add further scans or remove them if they were not chosen the first time by clicking the **Edit scan options dialog** button.

When scanning a wax-up or checkbite you will be asked to place the wax-up or checkbite after the initial jaw scan.

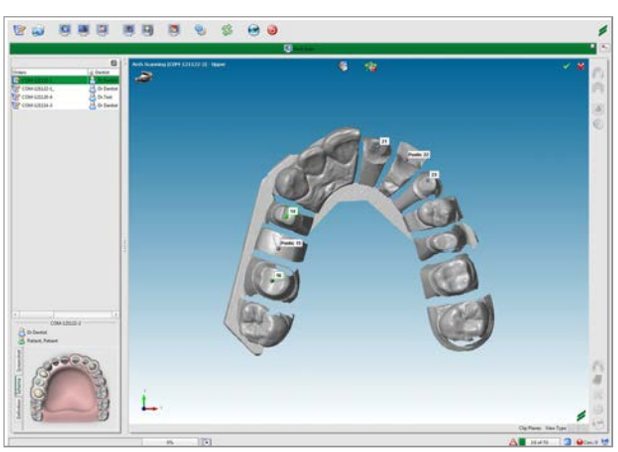
## 5.2 Full jaw scan

The scan process comprises several steps which have to be completed before starting the design module.

1. Click on the **Arch Scan Application** icon.
2. Drag & drop the case into the scan window.
3. Create a jaw scan by selecting **Normal scan**.
4. Set your scan options.
5. Click **OK**.



6. Assign the dies and pontics as the tooth numbers are displayed.
7. Click the **Start scanning the assigned dies** icon on the right toolbar.



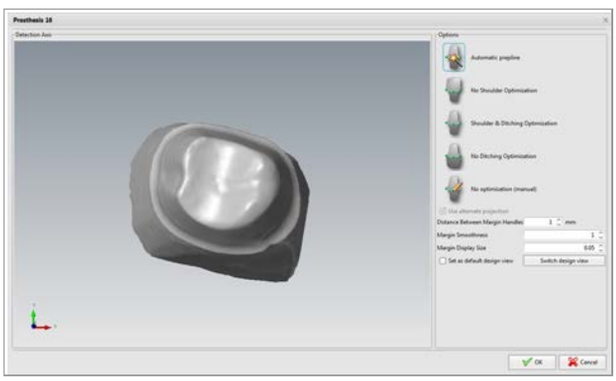
8. Place the dies as displayed in the scan window into the cylinders in your scanner. Click the **Start scanning the assigned dies** icon in the vertical toolbar. It is important to match the dies with the positions displayed on the screen and to insert them with the die's vestibular side pointing in the same direction as the white line on the scan cylinder. (If your sixth cylinder has an adapter for the sleeve holder, activate the reservation by clicking the checkbox.)

9. Click **Start Scan.**

10. Click the **Edit margin on next available preparation** icon to automatically identify the margin and select the **full automatic mode** or set the margin line manually by pressing **Switch design view** and click on the **die margin** to set a line**.**

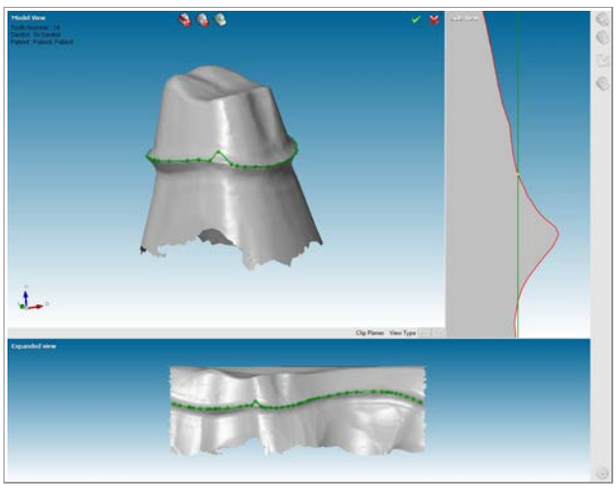
11. Click **OK.**

12. Click the **Edit margin on next available preparation** icon on the right toolbar**.**



**13.** Review and evaluate the results. If required, select the individual preparation points and change the direction of the green line as appropriate.

**14.** To confirm, click **OK.**

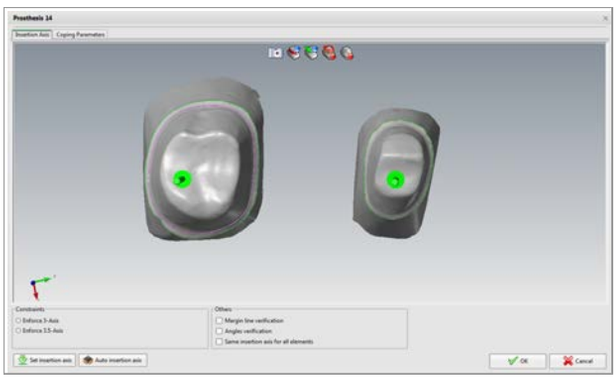


**15.** The definition of the insertion direction can be done manually or automatically**.**

**16.** If required, you can also change the design parameters and prosthesis type.

**17.** To confirm, click **OK.**

Repeat steps **10 – 17** for each die.



**18.** When done, exit the **Scan Application** by selecting the blue button on the lower right.

**Note**

If you have chosen the **Cylinder Scan** (multidie scan without model), you will not automatically get to the CAD station for designing.

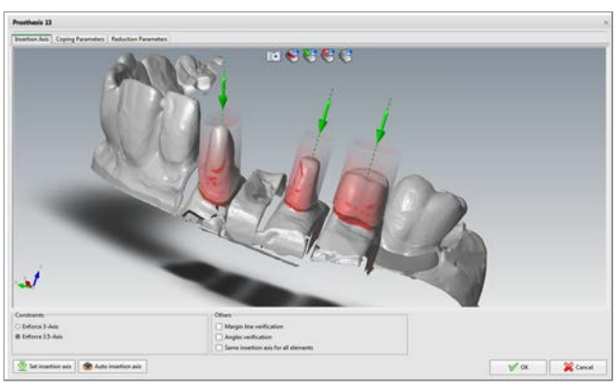
All functions of the Calculation and CAD application are available in the Scan module. This will take two individual steps after scanning and both are only included if dies are scanned with the **Cylinder scan** function without model. The **Jaw scan** does not include Calculation nor the CAD application. Complete all scanning activities for each order before you leave the module because the individual scanning steps will not be saved.

If you have chosen the **Partial Jaw** scan, the procedure will be the same, the model will be cut so that only the important parts remain.

### 5.2.1 Undercut bridge

The Undercut bridge function allows building bridges for very complicated preparations. This is necessary since one of the dies insertion axis can deviate up to 10 degree from the global insertion axis.

Follow these steps to build an undercut bridge:



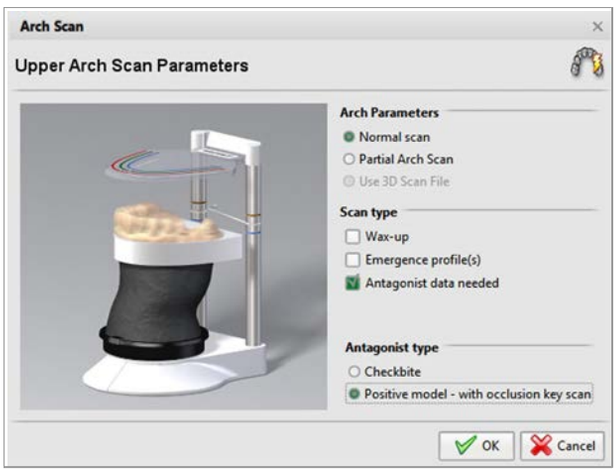
1. Set the global insertion axis of all teeth as usual and choose **Enforce 3-axis**.
2. Select the insertion axis of the desired tooth.
3. Choose now **Enforce 3,5-axis**.
4. Change the insertion axis of the die by clicking on the gripper and move it to the desired position. The angle verification will help you not exceed the maximum angle.
5. The **Set insertion axis** as well as the **Auto insertion axis** button will set the insertion axis to the die when the gripper has been activated.

**Note**

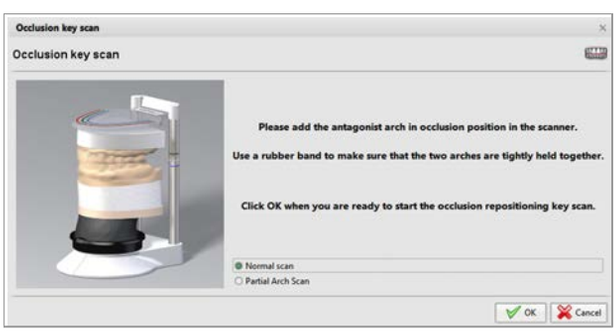
The **Undercut bridge** function can be set in the **Arch Scan**. It is also accessible in the **CAD station** via **Recompute.**

### 5.2.2 Dual arch scan

The dual arch scan will be activated when the scan type **Antagonist with positive model** is chosen. Check **Antagonist data needed**, when selecting the scan type.

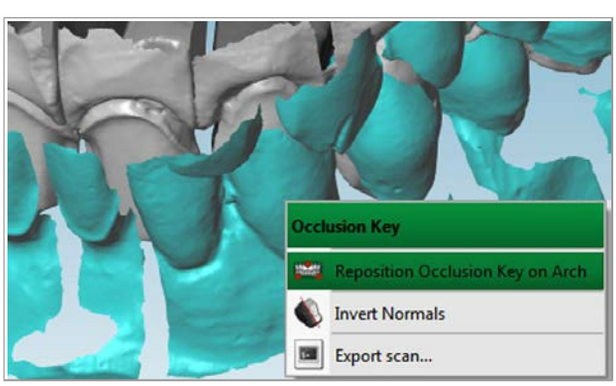



The initial scan has to be done in the same order as a full jaw or partial jaw scan. When the **Occlusion Key Scan** window appears, place the opposite model in occlusion on the other model, secure the models, e.g. with rubber band, and click **OK** to start the Occlusion Key Scan.

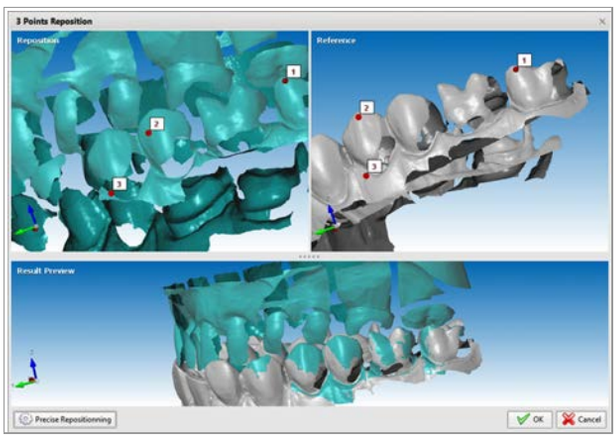

Occlusion key scan
Occlusion key scan
Please add the antagonist arch in occlusion position in the scanner.
Use a rubber band to make sure that the two arches are tightly held together.
Click OK when you are ready to start the occlusion repositioning key scan.
Normal scan
Partial Arch Scan
OK
Cancel

In order to scan the opposing model, switch by selecting the blue arrow. Click the **Scan Antagonist** button, place the model into the scanner and start the scan.

During the scan of the opposite model, reposition the occlusion key scan with your first scanned jaw by clicking the **Occlusion Key Scan** with the right mouse button and select **Reposition to lower/upper jaw.** It is recommended to postpone this action during high level processor and memory usage of the computer.



To perform three-point matching, place three points at prominent positions which exist in both scans.




**Note**
Ideally, the three points build a triangle by remote positions.

Once all points are placed, select **Precise Repositioning** on the lower left of the window and allow the software to process precise positioning. Confirm repositioning by clicking **OK**.

Repeat the reposition with the opposite jaw.

**Note**
Check occlusion position. If needed, use **Adjust Arch Position** from upper or lower arch scan or **Reposition Upper (or Lower) Arch on occlusion key** from Occlusion Key Scan.

Select the upward blue arrow to activate the upper model. Hide the model scan to further facilitate jaw repositioning.

**Note**
At this point, the only image on the screen is the lower model. If you select the blue **upward arrow** to activate the upper model, the lower model turns to a tan/golden color, while no upper model shows. You have to click the **Die** icon in the top center of the screen to visualize the upper model scan and occlusion key scan.

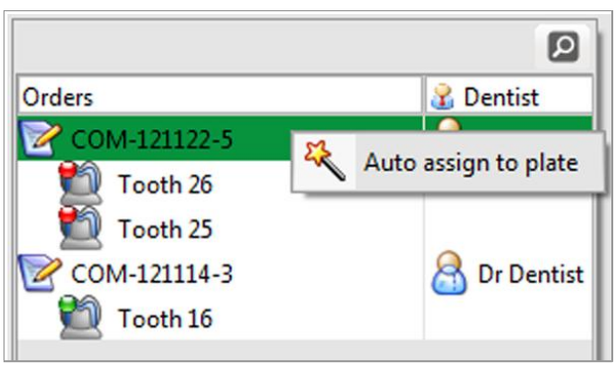
## 5.3 Multidie scanning

### 5.3.1 Scanning procedure

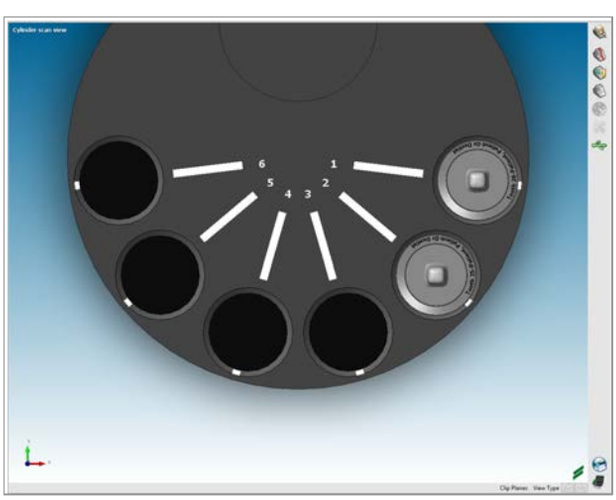
For multidie scanning click the **Cylinder scan** icon.

Assign die position on the plate; two options are available:

- Auto assign feature. Right-click on the order and select **Auto assign to plate**. Each slot will be assigned with a die starting from top down as displayed within the figure.

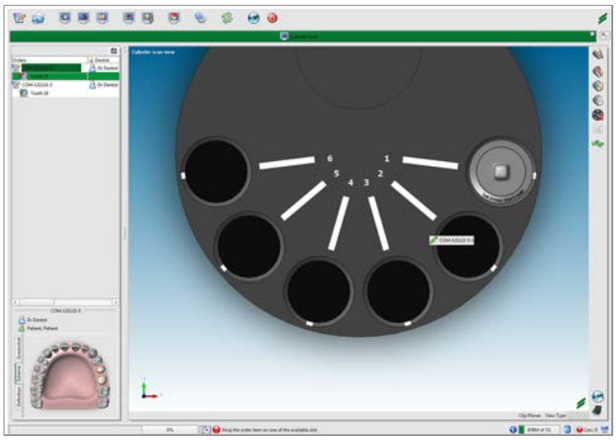



- Drag & drop a die into an empty slot.



When positioning dies in the scan cylinder, it is important to match the dies to the positions displayed on the screen and to insert them with the vestibular side pointing in the same direction as the white line on the cylinders.

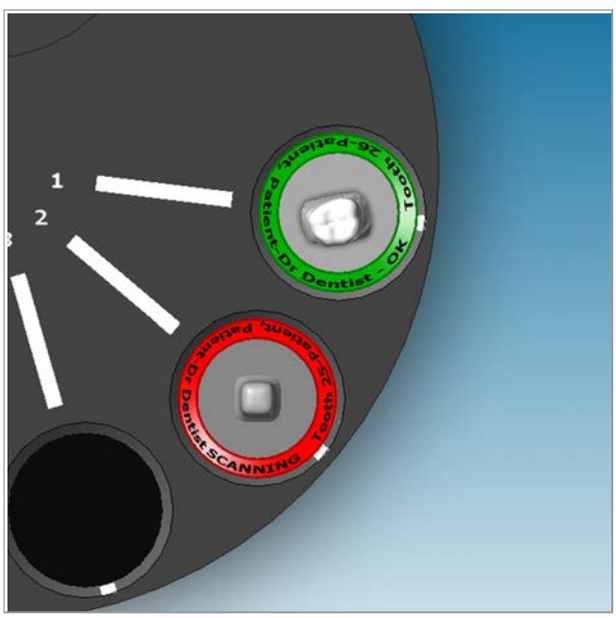
The dies will disappear from the display on the left side after they have been loaded into the cylinders.



Initiate the scan session by selecting the **Start scanning and auto-computation** icon.

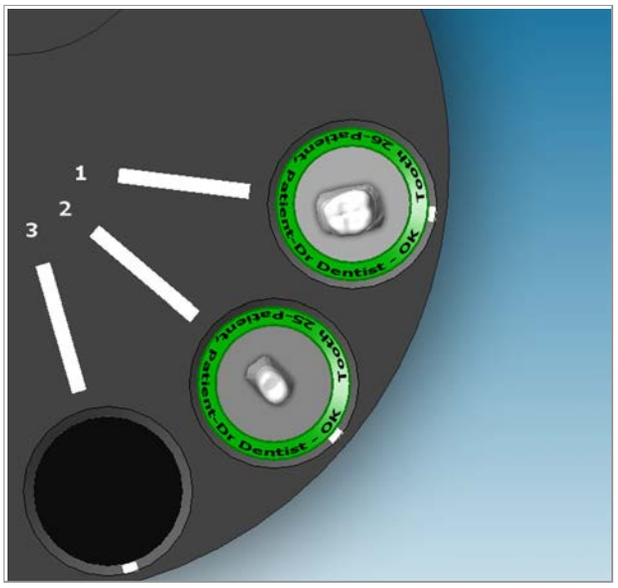
The system will automatically detect the margin, calculate the insertion axis and generate the CAD station for all dies in the cylinders.

The scanner will then begin scanning and stops when all six die designs have been completed. You can then leave the scanner unattended.



**Note**

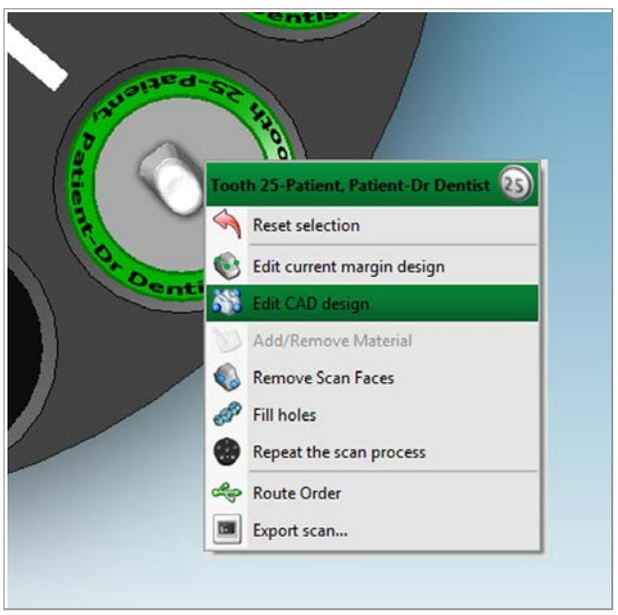
If you have more than six teeth to scan (these do not have to be from one order) click the **Clear plate from assigned dies** button after the first six dies are computed and assign the next teeth to the dies. When the dies are computed, the **Tooth** icon turns from red to green.




When pressing the **Routing** icon to route the dies to production, only those with the green icon will be routed. The green icon shows that the tooth is finished (scan and margin line definition).

### 5.3.2 Check-up

You can verify and adjust, if necessary, the margin line and the design. To do so, right-click on each design and select **Edit current margin design** or **Edit CAD design** that will either open the standard margin line editor or the coping design view.




To route the jobs to production, select the **Route to the next operation** icon.

### 5.3.3 Sleeve holder

To scan with a sleeve holder, the holder must have been registered before. See the Sleeve holder registration137 chapter for further information. Scanning with the sleeve holder will be possible only if **Custom abutment with waxing** has been specified in the order creation step.

Click the **Cylinder scan** icon. Right-click on the order and select **Auto assign.** The order is automatically placed in the sixth cylinder. This can also be done manually via drag & drop.

Initiate the scan session by selecting the **Start scanning and auto-computation** icon. The system will automatically detect the margin, calculate the insertion axis and generate the CAD abutment design.

**Routing** the order has the same effect as a cylinder scan.

**Note**

Place the sleeve with the waxing in the appropriate sleeve holder. The sleeve holder must be placed into the cylinder adapter with the pin placed towards the white line on the cylinder. Only one sleeve can be scanned at a time. If your order has more than one item to be scanned in the sleeve holder, each item has to be scanned separately. Finished scans receive a green icon.

## 5.4 Implant-borne restorations

There are two ways to scan implant-borne restorations:

1. On a cast model
2. With a sleeve holder

**Requirements for the model with implants for screw-retained bars and bridges**

- Only whole jaw models can be scanned.
- Make sure that you do not mix the scanbodies (only scanbody or Mono Scanbody).
- Make sure that angular deviation between the implants does not exceed the limit.
- Make sure that your scanbodies are placed correctly and are screwed to the implant.

**Note**

Place the model on the putty and set the height of the rod to the level of implant interfaces.

**Scanbodies**

Scanbodies can be used to determine the abutment position.

**Precaution**

Inaccurate scanbody reconstruction may lead to an incorrect prosthesis angle or position. Therefore, thoroughly follow all the instructions for the scanbody (701149 IFU CARES® Mono Scanbody and 150.771 IFU Straumann Scanbody).

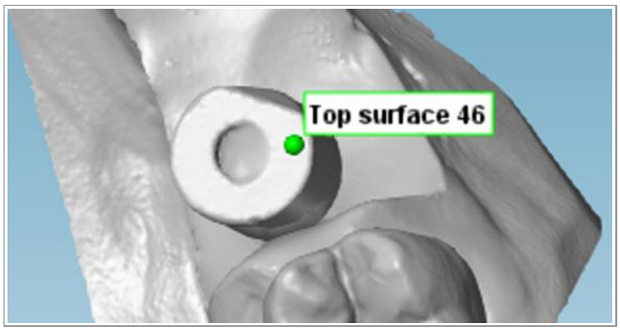
### 5.4.1 Implant-borne from model

The scan process contains several steps which have to be completed before starting the CAD station.

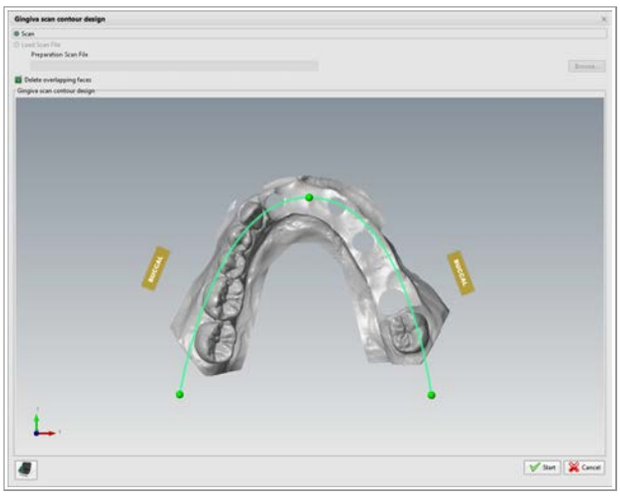
**Note**

Be sure to adjust the Mono Scanbody with the flat side towards the buccal side.

1. Click on the **Scan Application** icon.
2. Drag & drop the case into the scan window.
3. Create a jaw scan by selecting **Normal scan**.
4. Set your scan options.
5. Click **OK**.
6. Click the top surfaces of the scanbodies as the tooth numbers are displayed.



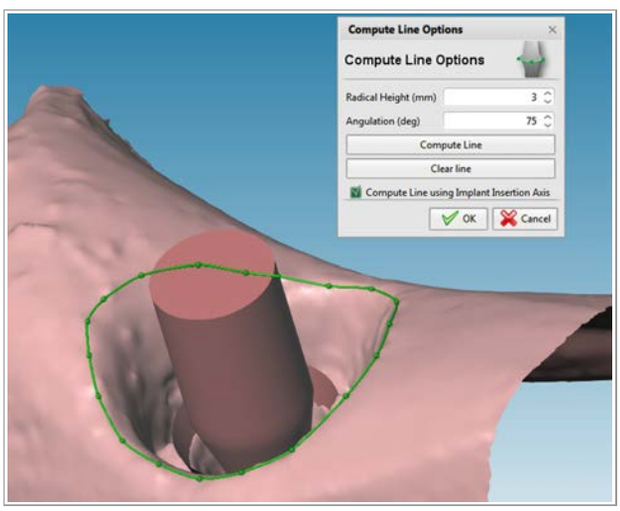

7. Click the green checkmark to initiate scanbody reconstruction.
8. If chosen (recommended), now scan your gingiva profile (emergence profile) using the global gingiva scan (over whole jaw) with the **Scan gingiva** button. To reduce size of the gingiva scan, choose **Delete faces** and only the new parts will remain, otherwise clean your scan with **Remove scan faces**. If only a part around the implant has to be scanned, choose **Scan gingiva** from the implants local menu. Press the **Open lid** button to open your scanner.



9. Click **Edit Margin** to select the margin line manually by clicking on the gingiva scan or compute the line automatically.
10. Click **OK**.
11. Review and evaluate the results.
12. To confirm, click **OK**.

    Repeat the steps 9 – 12 for each implant.

13. When done, exit the scan application by selecting the blue button on the lower right.



**Note**

For a screw-retained bar a margin does not have to be placed. If a gingiva mask is located on the model, remove it before scanning the initial scan and place it back on the model when performing a gingiva scan. If the gingiva is not aligned, use the **Reposition gingiva** button from the **Gingiva scans** local menu. If your order has a mixture of implant- and tooth-borne restorations continue with the cylinder scan before closing the scan application.

## 5.5 Special scan applications

### 5.5.1 Scanning with auxiliaries

#### 5.5.1.1 Sleeve holder

Scanning with a sleeve holder is only possible with a registered sleeve holder, see chapter Sleeve holder registration137 for further information. Scanning with a sleeve holder will only be possible if **Custom abutment with waxing** has been specified in the **Order creation** step.

Click the **Cylinder scan** icon. Right-click on the **order** and select **Auto assign**. The order is automatically placed in the sixth cylinder. This can also be done manually via drag & drop.

Initiate the scan session by selecting the **Start scanning and autocomputation** icon. The system will automatically detect the margin, calculate the insertion axis and generate the CAD abutment design. Routing the order has the same effect as a cylinder scan.

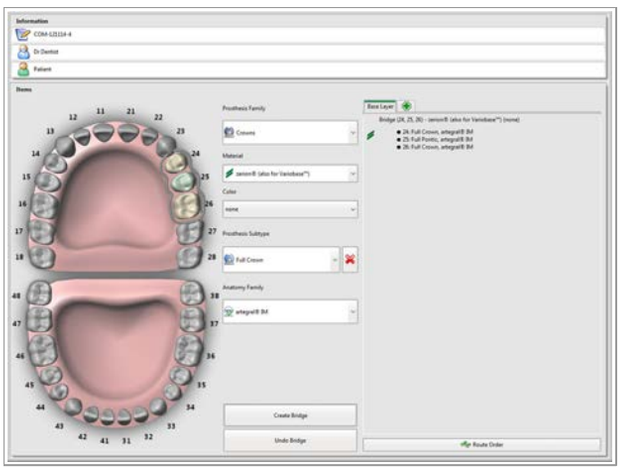
**Note**

Place the sleeve with the waxing in the appropriate sleeve holder. The sleeve holder must be placed into the cylinder adapter with the pin placed towards the white line on the cylinder. Only one sleeve can be scanned at a time. If your order has more than one abutment to be scanned in the sleeve holder, scan each abutment separately. Finished scans are represented by a green icon.

### 5.5.1.2 Wax-up

The following chapter describes how to adapt the anatomy of a prothesis on a wax-up.

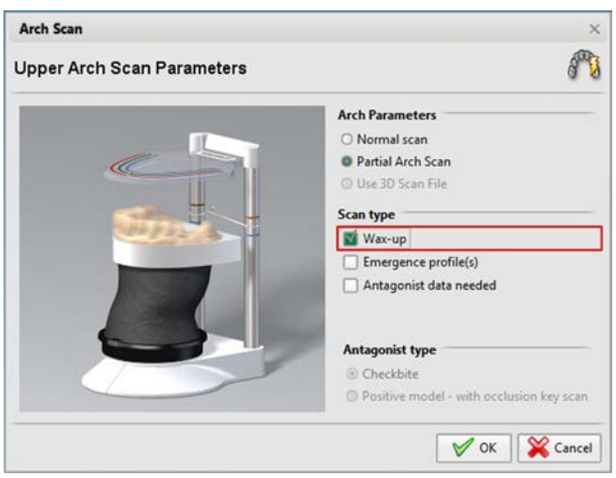
To scan a wax-up, create your order with the required prosthesis type. Any prosthesis type that has an anatomy will work.



Open the **Arch Scan Parameters** and select **Wax-Up** from the **Scan options**.

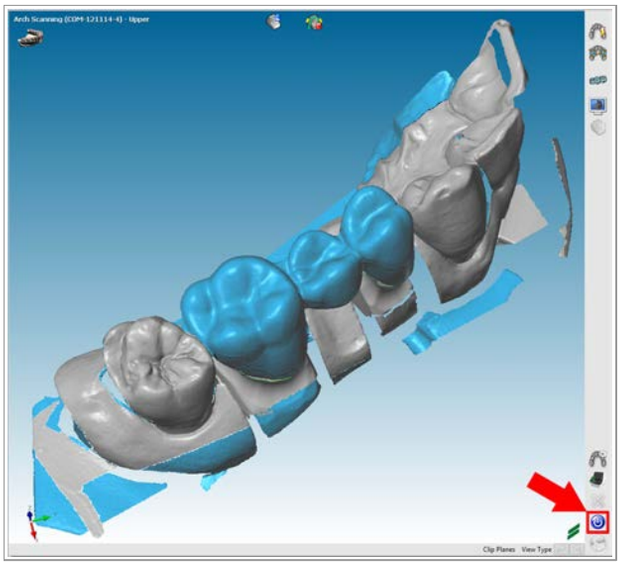
Proceed as follows:

- Scan the model without wax-up.
- Scan the model with wax-up.
- Scan the dies in the cylinder.

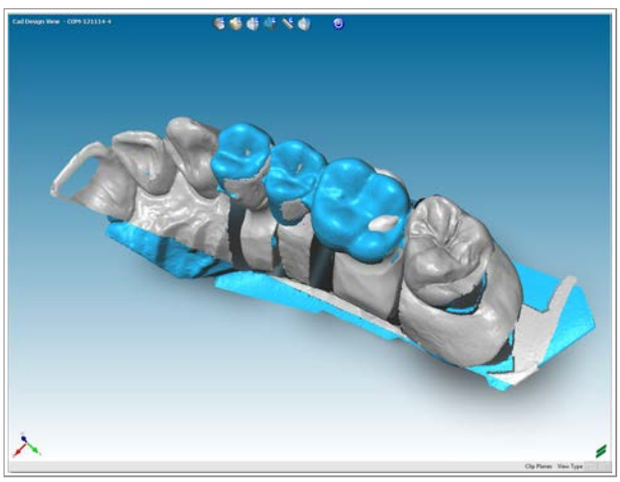


Edit margin and insertion axis of all dies after the scan.

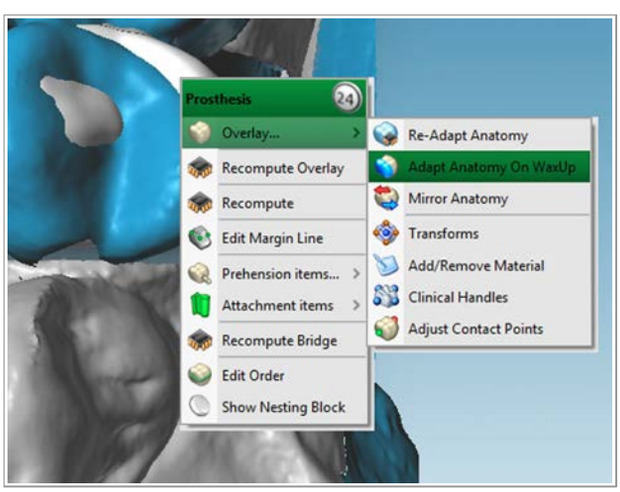
Click the **Exit current design** button to continue.



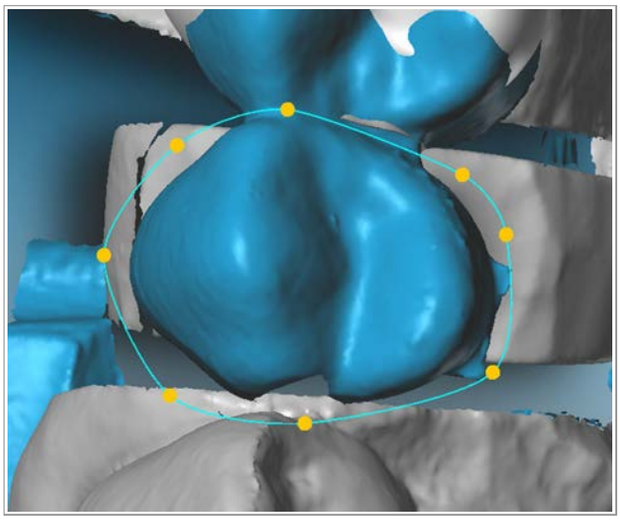
After calculation, open the **CAD station** and drag your order into the main workspace.



The computed proposal for the anatomy is not yet based on the wax-up information. Now, use the **Adapt Anatomy on Wax-up** function. Right-click on the prosthesis and select **Overlay > Adapt Anatomy on Wax-up** from the menu. In case of an order with a full anatomy bridge, you will find it under **Overlay,** otherwise in the **Anatomy** context menu.



Define the area of the wax-up to be used for adaptation by moving the yellow dots. Make sure that the entire tooth circumference is included. Avoid including any connectors.

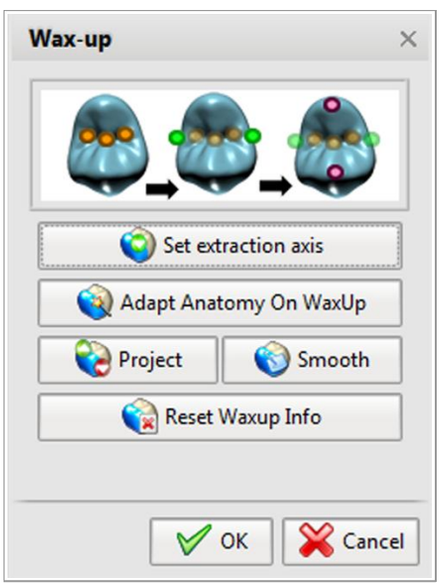


Define each clinical point by clicking its position. Follow the order suggested in the illustration. The list of points will adjust to your tooth number. Clinical points to be set may vary depending on the tooth. As a rule, proceed as follows:

1. Set the orange points in the fossa
2. Set the green points on the ridge
3. Set the red points on the cusp

Once all points have been placed, you can move them.

When finished, select **Adapt Anatomy on Wax-Up.** Use the **Smooth** button to apply a global smoothing on the resulting anatomy.

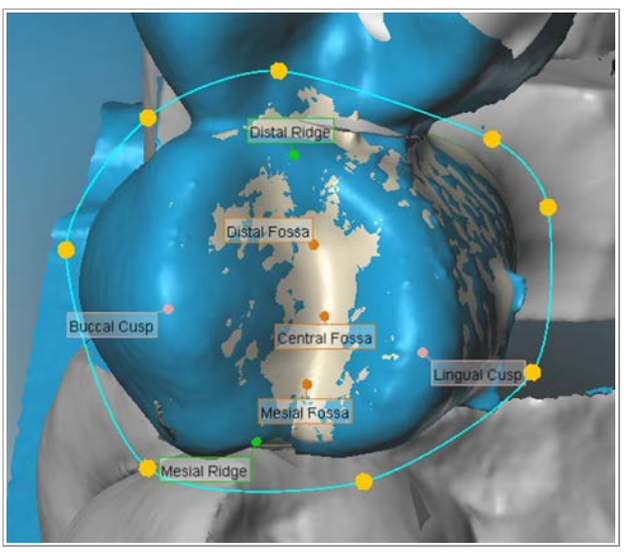



**Note**

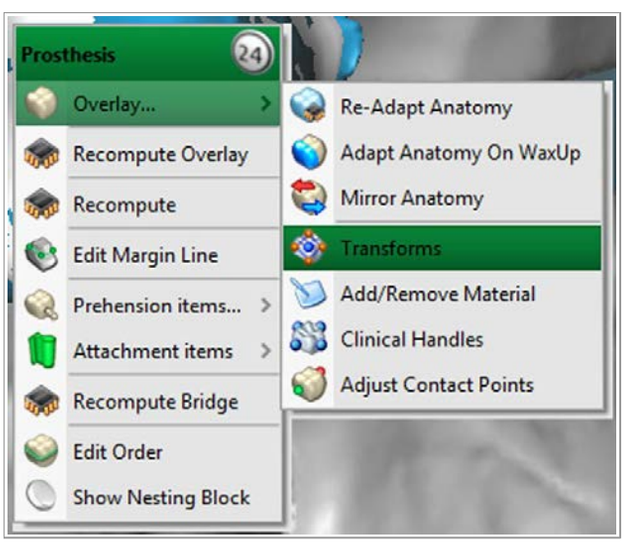
If you are not satisfied with the adaptation result, click the **Project** button, it simply projects the anatomy on the contour of the wax-up without considering the defined clinical points. Take note that you won't be able in this case to further manipulate clinical points in other functions, as they won't be located in their real position.

To remove points and area definitions use the **Reset Wax-up Info** button.

Click **OK** when you are satisfied with the result.




Finalize your design by using **Transforms**. To do so, right-click and select **Overlay > Transforms** from the context menu.

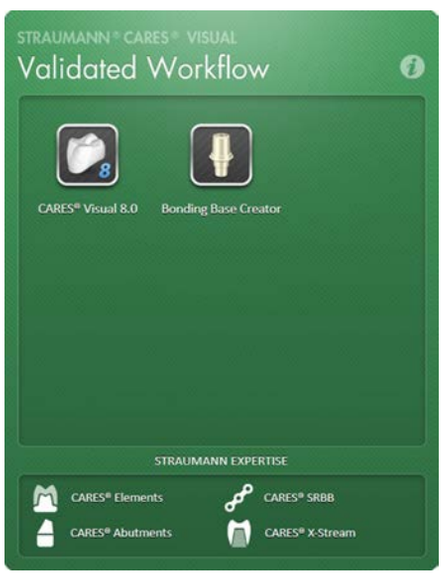



When ready, press **Exit current design** button. The order and related files are now available in the **Order management** for you to assign a manufacturing request.

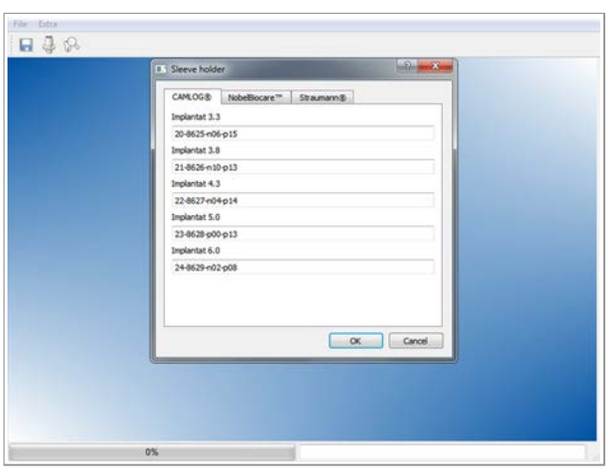
### 5.5.1.3 Bonding base creator

The **Bonding Base Creator** is not available in every country.

Open the **Bonding Base Creator** (Ti-Base Creator), located in the **Validated Workflow** of the **Dental Desktop**.



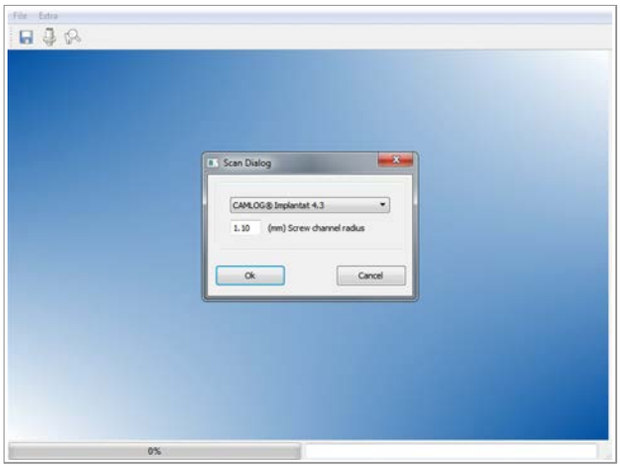

Register the sleeve holder by clicking **Extra** and then the **Holder registration** icon in the toolbar at the top.



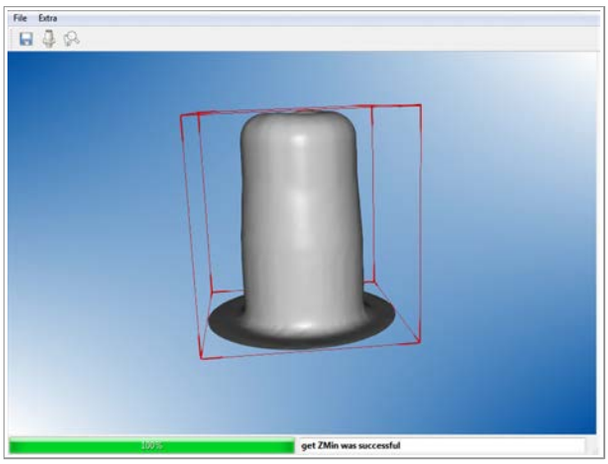

Before scanning the Bonding base, make sure the screw hole is closed (i.e. with wax) and the surface is matt and homogenic.

The Bonding base has to be placed into the appropriate Sleeve holder, which needs to be put into the sixth cylinder. See chapter Sleeve holder56 for placement instructions.

Press the **New Titan Base** button and the **Scan Dialog** will appear. Choose an implant which you want to scan the Bonding base from and click **OK**.



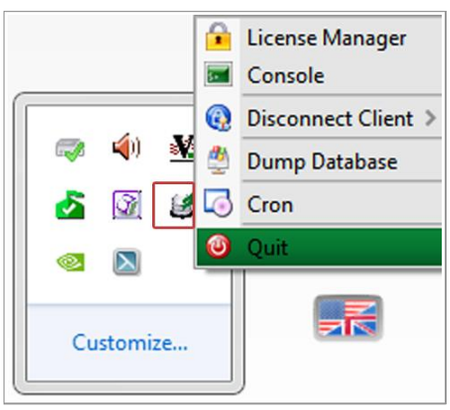

The **scanner lid** will open after the scanner is activated. Place the **Sleeve holder** into the **cylinder** and close the **lid**. The scan will start automatically.




Once the scan is finished and the results are acceptable, click the **Save** button and close the application if no further Bonding bases have to be scanned.

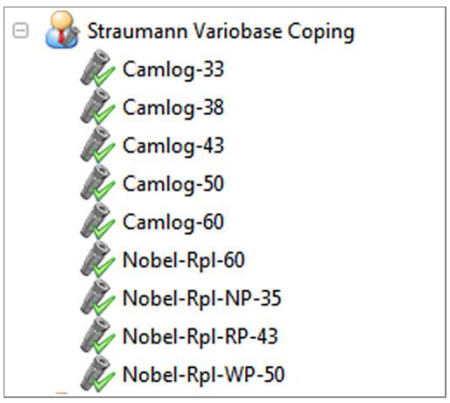
When the Bonding base creator is closed, the CARES® Server needs to be restarted.

Restart the server by pressing the right mouse button on the **CARES® Server** icon located in the Windows **Taskbar** and select **Quit**.



Once the server has been closed, re-open it by pressing the **CARES® Server** icon on the Windows desktop.

After the Straumann® CARES® Visual 8.0 client has started, the Implant Kits with the scanned Bonding bases are now selectable at the **Order Creation** as well as the **Implant Kit Editor**.



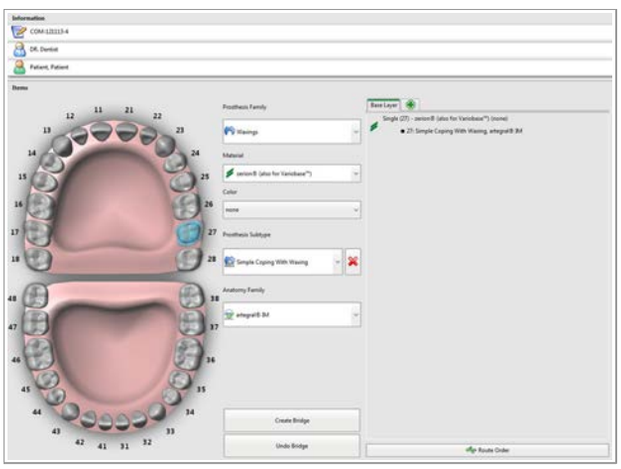

### 5.5.1.4 CS2 Minitool

The CS2 Minitool helps you with your CS2 scanner, even when the Straumann® CARES® Visual 8.0 software is not open. The tool allows you to open the scanner lid, abort scans, see information or instruct information to wait for further actions.

Open the **CS2 Minitool**. It is located at **Products & Services** on the **Dental Desktop**.

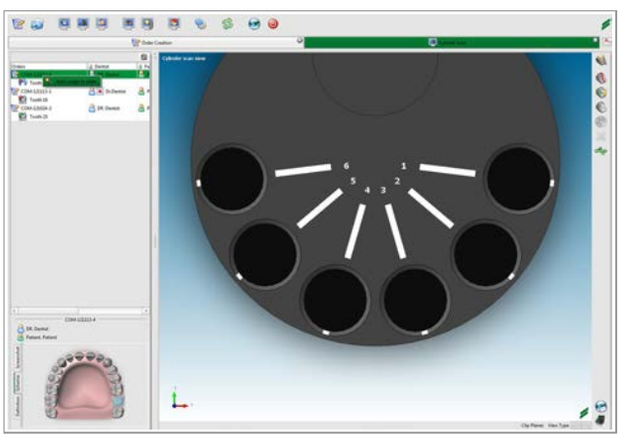
## 5.6 Single wax-up

Create a new order and define a simple coping with waxing.



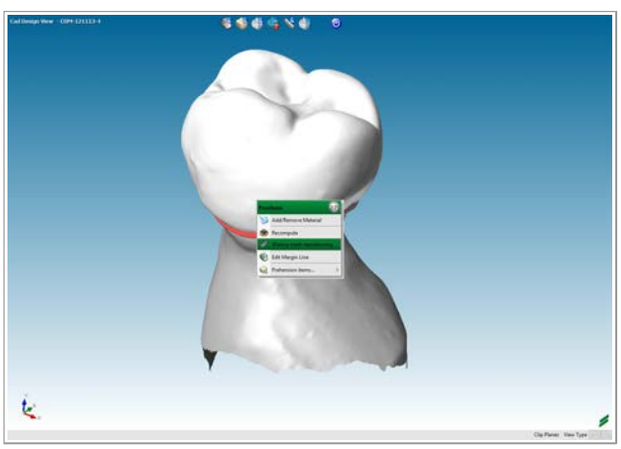
Open the **Cylinder scan**. Right click on the order and select **Auto assign to plate**. First, scan the die without the wax-up. Start the scan with **Start scanning the assigned dies**.

After completion, the software will ask you to place the wax-up onto the die. Close the scan lid, do not move the die and start the second scan.



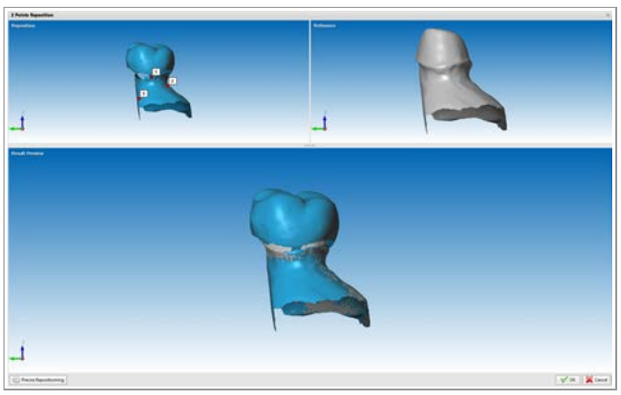
Define the margin line.

Right-click on the prosthesis and start **Waxing mesh repositioning** by selecting it from the menu.

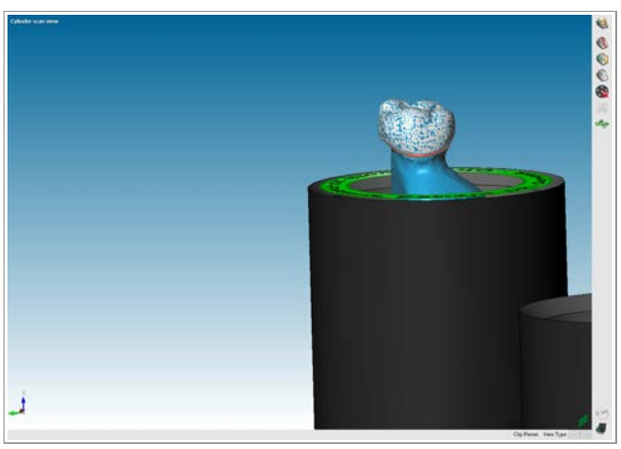


Perform a three-point matching to position the wax-up.

If you are not satisfied, right-click on the prosthesis and select **Add/remove material** to finish your design. After completion, route the order forward to merge the surfaces.



Use the **Route order** icon to send the order to the **Production Management**.



## 5.7 Scan import

Straumann® CARES® Visual 8.0 software allows importing STL files created by other open scanners as well as using imported orders from the Inbox.

To import STL files select the **Scan Import Application** (available in external workflow only) by clicking on its icon in the main toolbar. The main **Scan Import** window will open.

The **Scan Import** window displays the list of orders which are ready to be imported. An order needs to be created before STL import or is imported from the INBOX🗋35.

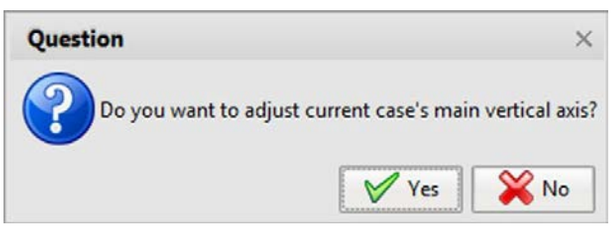
**🕮 Note**
Always define orders correctly (e.g. number of dies, etc.).

Drag and drop the order to be imported or double-click on the order to start importing. You can import STL files for the preparation arch, the antagonist arch and a wax-up. Antagonist and wax-up are optional.

Define the path where the STL shall be stored, a 3D preview window will help you to identify the STL files.

Depending on the scanner used for creating the STL files, the elements are not oriented in the same reference system. Use the **Options** section to automatically align the elements. Do the same with antagonist files if existing.

The imported elements will be displayed. They should be in occlusal view. If this is not the case, adjust the orientation by answering **YES** to the following question.




Define the new axis by 3D rotation of the view until you are in occlusal position. Then press **OK**.

Next, define the clinical orientation using the same procedure as for the scan application and tooth number assigning. Select:

- STL files
- Axis definition
- Clinical orientation

Assign the tooth number and location. You can also adjust antagonist position or clean the surfaces.

Define the margin lines as usual after validating. The order will be routed to the next step and will be processed by the **Calculation**, when ready.

# 6. CAD module

## 6.1 CAD principles

### 6.1.1 Calculation and proposal editing

The CAD prosthesis design function is divided in two steps:

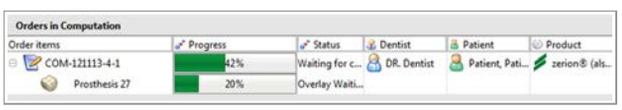
- **Calculation** which converts scanned data to submit to the CAD design for prosthesis design.
- **CAD station** which provides editing tools to customize the auto-generated proposal.

Both Calculation and CAD station can be accessed in the **main toolbar**.

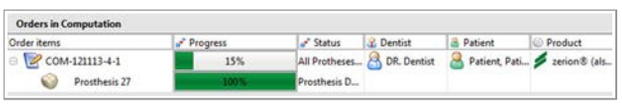
The **Calculation** icon:

The **CAD station** icon:

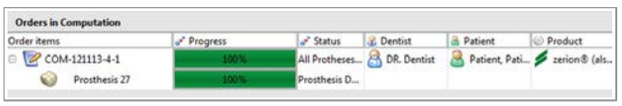
To edit an order in the **CAD station**, open **Calculation**. When selecting the **Calculation** function, the computation of all scanned cases automatically begins and the progress will be displayed.



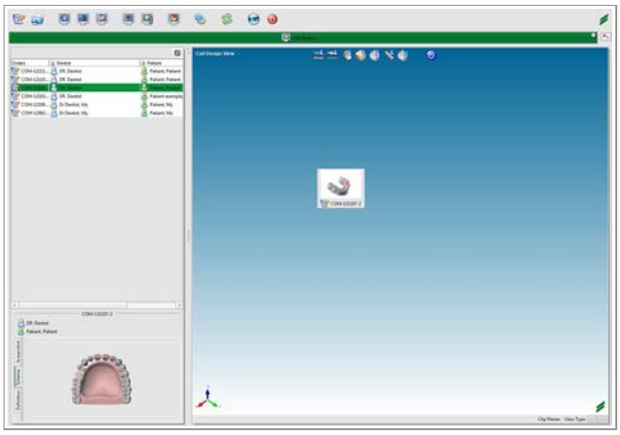

The status **Prosthesis Done** means the computation of a particular item on an order has been completed.




The status **All Prostheses Done** is displayed when the computation of an entire order has been completed. This computation must be completed on each order before continuing onto CAD station.



After all prostheses are calculated open the **CAD station**. To select an order, drag and drop it into the main window or double-click on the order number, and the design proposal will be displayed.

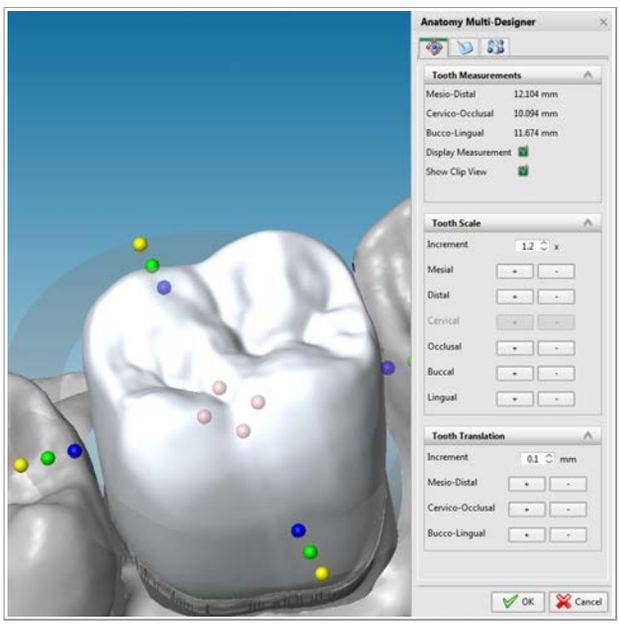


### 6.1.2 Multi-Designer

The Multi-Designer is available on the anatomy and the overlay. Access the Multi-Designer by a right-click on the restoration to open the **context menu**. The Multi-Designer contains various tabs depending on the type of restoration.

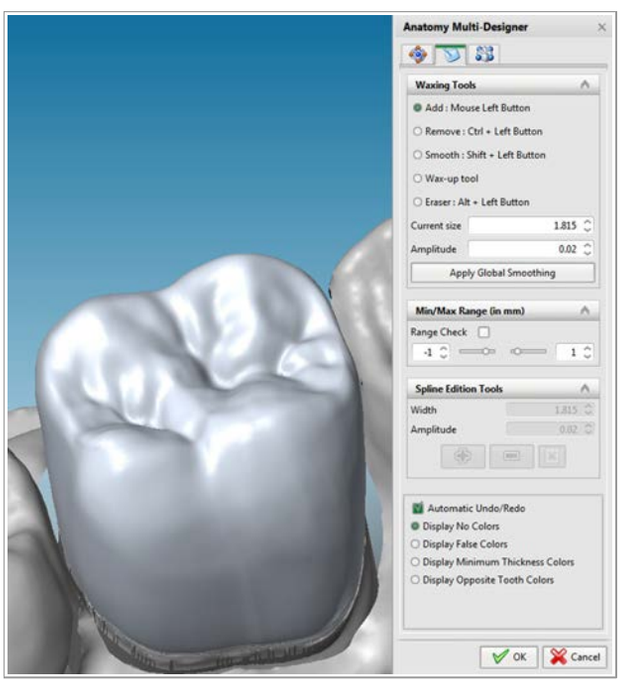
### 6.1.2.1 Transforms

Use the colored grippers to transform. Different gripper colors represent different functions. It is possible to enable appropriate measures as well as the 2D clip view. Within the subs tooth scale and tooth translation the restoration can be sized incrementally by a given value.



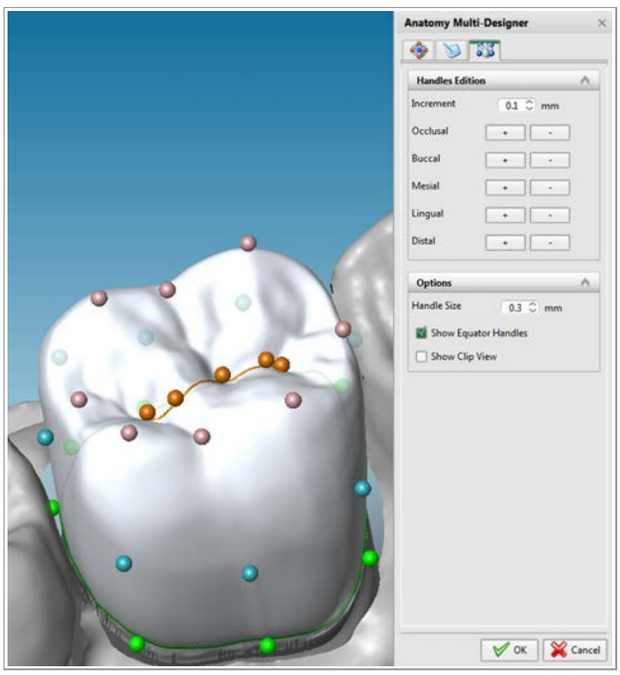

### 6.1.2.2 Add/remove material

The Add/Remove Material function can be used to individualize the design by selecting a tool or using the shortcuts. Open the **sub menu** to activate the **spline edition tools**. Mark a line through points. The adjustment will be performed along the line.



### 6.1.2.3 Handle edition

It is possible to add handles. Within the subs menu the restoration can be sized incrementally by a corresponding value. Otherwise use the colored grippers to transform the shape. Different gripper colors represent different functions.

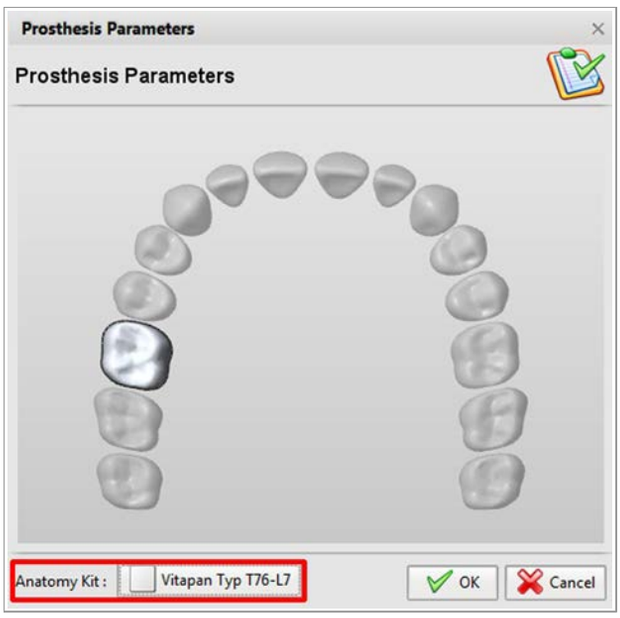



## 6.1.3 Tooth anatomies

The Straumann® CARES® Visual 8.0 software contains various anatomy libraries of Straumann cooperative partners.

If you want to change the anatomy in the **CAD**, right-click on the prosthesis and select **Anatomy** > **Re-Adapt Anatomy** from the menu.

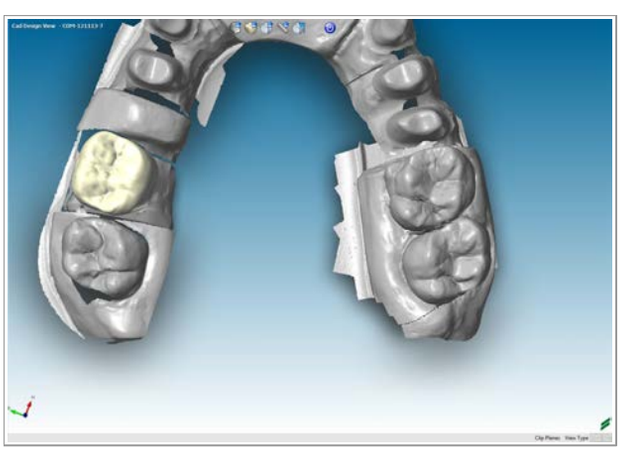
Choose the anatomy kit and click **OK**.




### 6.1.4 Mirroring anatomy of a natural tooth

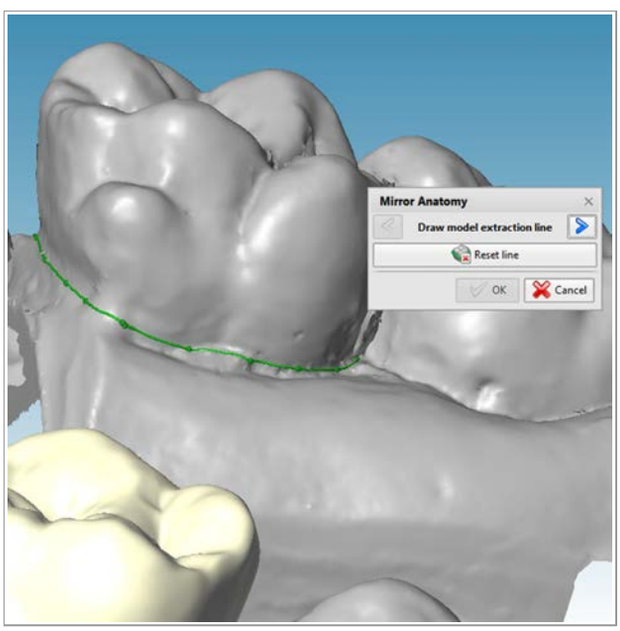
Replicate an anatomy in the CAD with the mirror anatomy function.

When scanning, make sure to include the anatomy to replicate in the area of interest.



In the **CAD module**, right-click on the prosthesis on which to apply a natural anatomy and select **Mirror Anatomy**. An editor window will appear, which guides the user through the application.

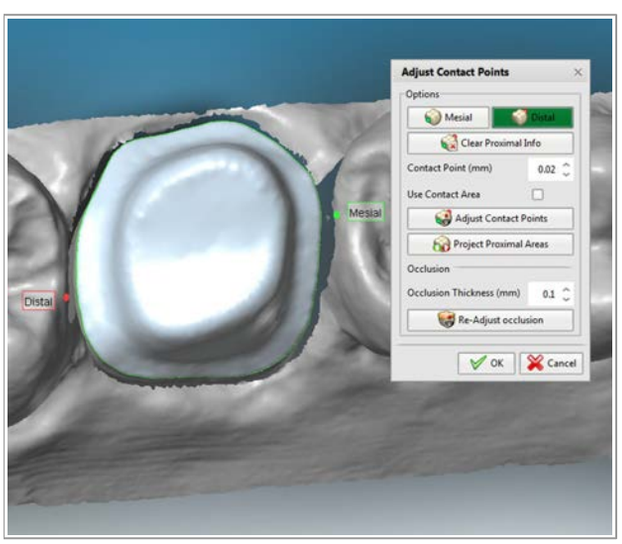
First, draw an extraction line on the model as shown in the screenshot.




Afterwards, adjust the position of the extracted anatomy over the overlay and finish the mirroring by verifying the adapted anatomy.

### 6.1.5 Adjust contact points

The **Adjust Contact Points** function is available in the **Overlay** context menu. Click the **Mesial** and **Distal** buttons in order to mark the contact points on the adjacent teeth and select **Adjust Contact Points**.

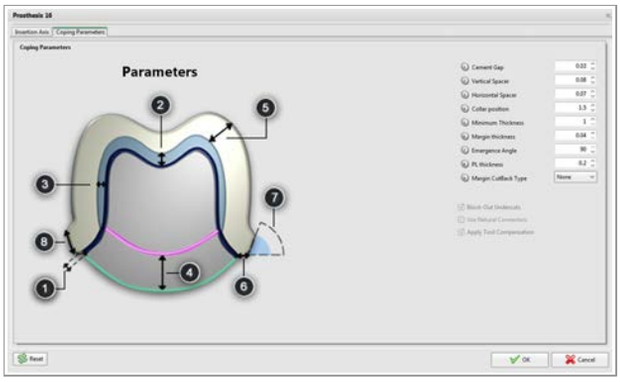



### 6.1.6 Clinical parameter definitions

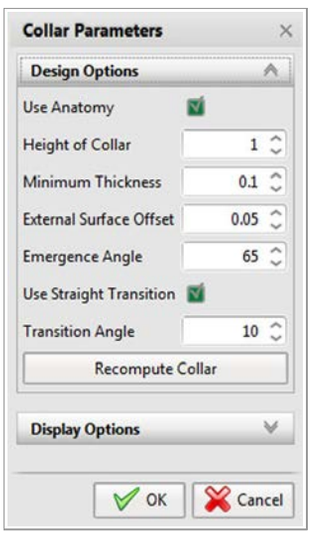
The Straumann® CARES® Visual 8.0 software is clinically oriented and allows to set the coping parameters needed for the design.

The parameters are managed in two different ways. For detailed information on the workflow, see chapter Local adjustment 🗋24.

- Parameter tables for general prosthesis parameters, e.g. prosthesis type and minimum thickness. Parameter tables will differ according to prosthesis type. These parameters will be used for the computation of the automatic proposal of the prosthesis.
  To access the coping parameters, right-click on the object. Select **Recompute** and switch to the **Coping parameters** tab.




- It is also possible to manage the tool parameters, e.g. Collar. See the chapter Collar94.




## 6.2 Design

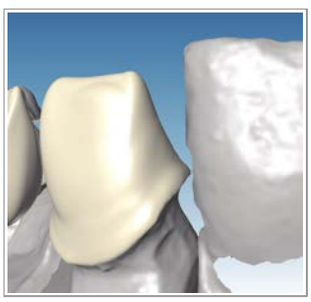
### 6.2.1 Tooth-borne restorations

#### 6.2.1.1 Differences between anatomy and overlay

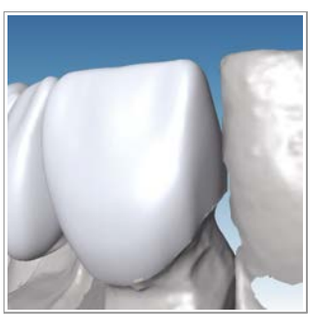
The Straumann® CARES® Visual 8.0 software uses an outside to inside design strategy. This approach allows to design full-contour crowns by designing the full clinical situation in the first design step. Once the crown design is done any underlying framework can be computed automatically from the full prosthesis.

To achieve this, the Straumann® CARES® Visual 8.0 software works with two different elements.

**Overlay**
Design of a frame, for example a simple coping

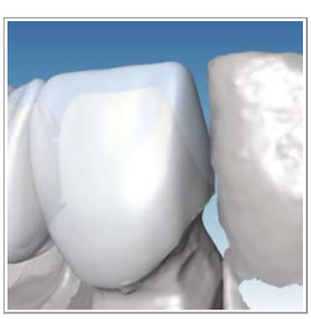


**Anatomy**
Full-contour morphology design



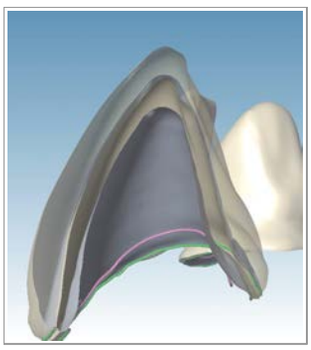
The Straumann® CARES® Visual 8.0 software includes advanced display features that assist the user when working upon these two elements:

**Transparency view**



**Cross-sectional view** where a slice of each element is visible:

Anatomy and overlay



**Anatomy** and **Overlay** designs have context-sensitive adjustment options.

The **Overlay** is computed with respect to the **Anatomy** design. Consequently, if a modification is applied to the **Anatomy**, the **Overlay** will be automatically updated. For example, in the case of a clinical coping, the Straumann® CARES® Visual 8.0 software will update an overlay to compensate for the porcelain thickness.

However, a modification applied to the overlay will not affect the anatomy.

The overlay's defined ceramic interface will always respect the minimum thickness followed by the cement gap which are defined within the material.

In the case of an anatomical coping, the overlay will be projected on the minimum surface from the equator down to give space for the ceramic, even if an equator space of 0 mm is set.

#### 6.2.1.2 General design types

The Straumann® CARES® Visual 8.0 software offers a broad selection of general design types. Based on the selected material, the following design types are available:

Crowns prosthesis family:

- Simple coping
- Simple coping with anatomy (coping with virtual anatomy)
- Clinical coping (coping with pre-defined reduction)
- Reduced crown
- Full crown
- Telescopic crown

Pontics prosthesis family:

- Pontic
- Full pontic

Waxing prosthesis family:

- Waxing copy
- Simple coping with waxing

Inlays prosthesis family:

- Inlay
- Onlay
- Partial crown
- Buccal veneer
- Veneer shell (for Maryland bridges)
- Anatomical veneer
- Reduced veneer

Diagnostic prosthesis family (not available in the validated workflow):

- Diagnostic pontic
- Diagnostic crown

**Note**

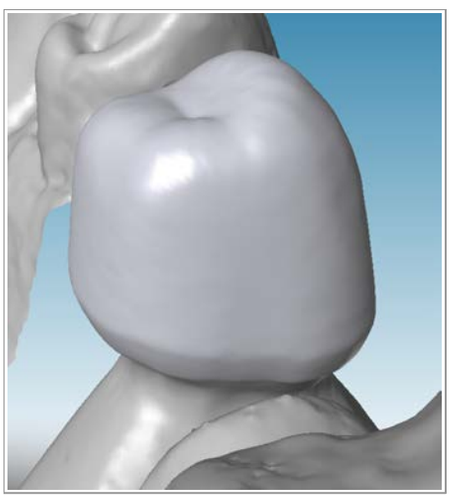
For more information on the prosthesis subtypes as well as their explanations, see chapter Prosthesis family overview141.

### 6.2.1.3 Simple coping

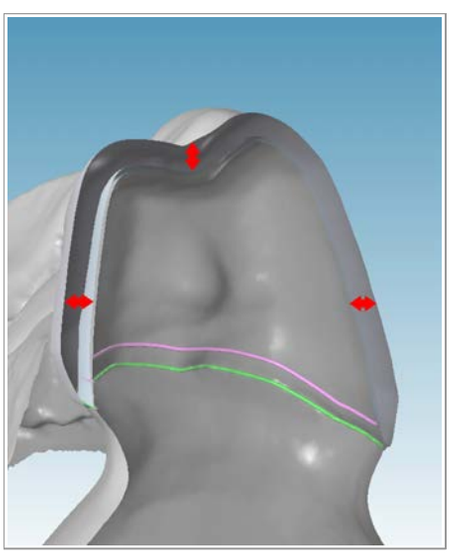
The simple coping is the simplest type of prosthesis. It is a coping with even thickness of material over the preparation.

Simple coping definition does not include any parameters. The minimum thickness, margin thickness and emergence angle are defined when defining friction parameters.

For information on how to adjust parameters, see chapter Local adjustment24.



A cross-section shows the thickness of the simple coping.

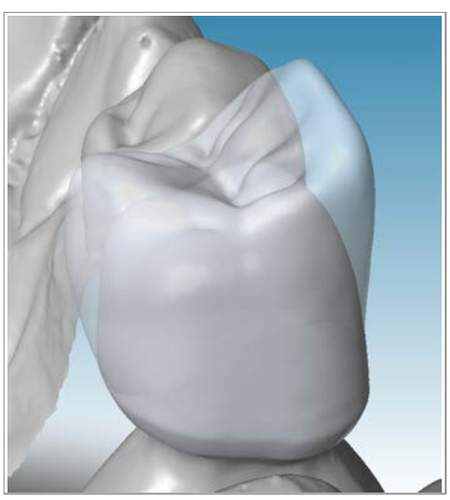


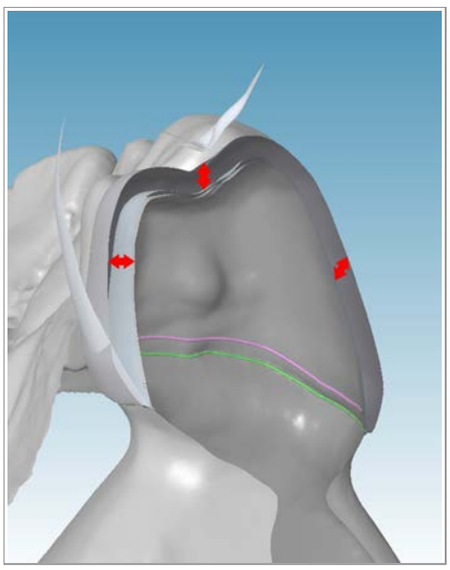
The actions visible on the screenshot to the right are accessible by simple coping.

### 6.2.1.4 Simple coping with anatomy

A simple coping with anatomy is very similar to a simple coping. The coping will be the same with even thickness of material. The difference is that an anatomy is computed.

For information on how to adjust parameters, see chapter Local adjustment🗋24.

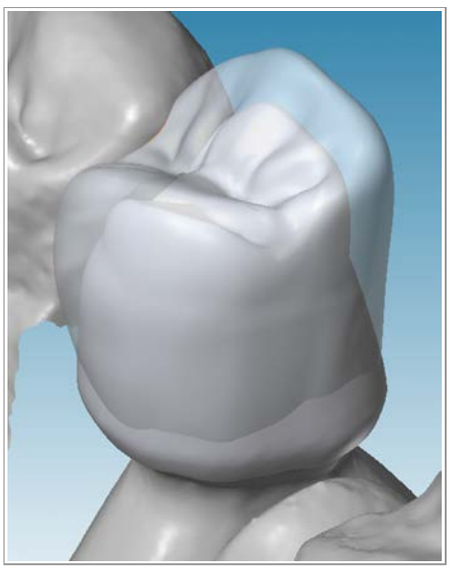




The functions visible on the screenshot to the right are accessible on a simple coping with anatomy.

### 6.2.1.5 Clinical coping

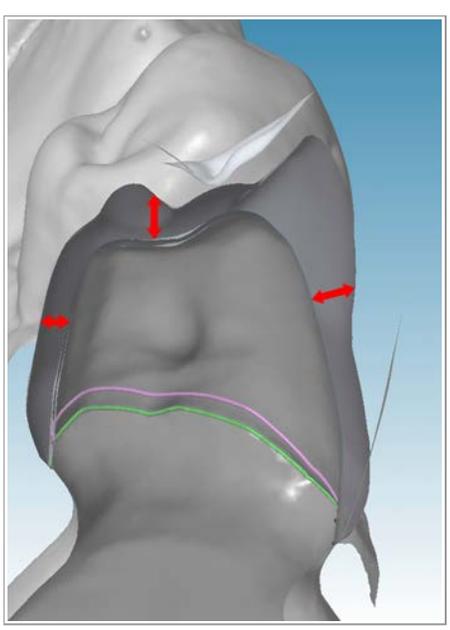
The clinical coping manages the homothetic reduction from the full morphology in order to compute the required space for the porcelain all around the coping. Obviously, the minimum thickness of material for the overlay will be respected. An anatomy is computed.



Parameters are accessible to the user to define the porcelain reduction on the mesial, distal, buccal and lingual sides on both cusp and equator line. Cervical and occlusal reductions are also accessible.

For information on how to adjust parameters, see chapter Local adjustment24.

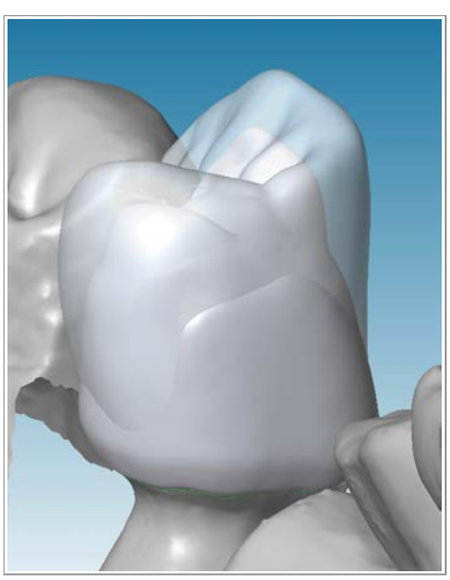
A cross-section shows the reduction for porcelain and also the respect of the minimum thickness of material.



The clinical functions visible on the screenshot to the right are accessible on a simple coping with anatomy.

### 6.2.1.6 Reduced crown

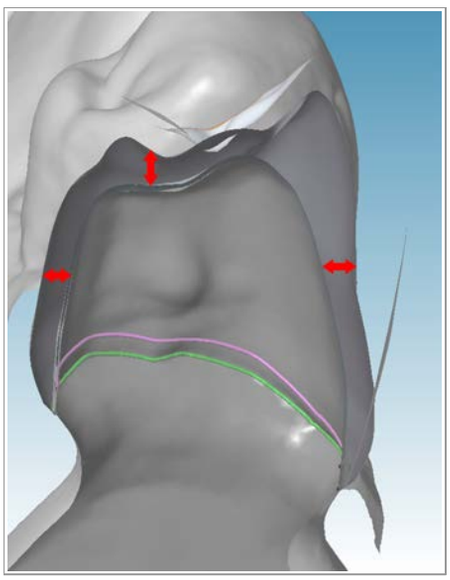
The reduced crown manages the reduction from the full morphology in order to compute the required space for veneering material all around the coping. Obviously, the minimum thickness of material for the overlay will be respected. An anatomy is computed.



Parameters are accessible to the user to define the veneering reduction on the mesial, distal, buccal and lingual sides on both cusp and equator line. Cervical and occlusal reductions are also accessible.

For information on how to adjust parameters, see chapter Local adjustment24.

A cross-section shows the reduction for veneering material and also the respect of the minimum thickness of material.

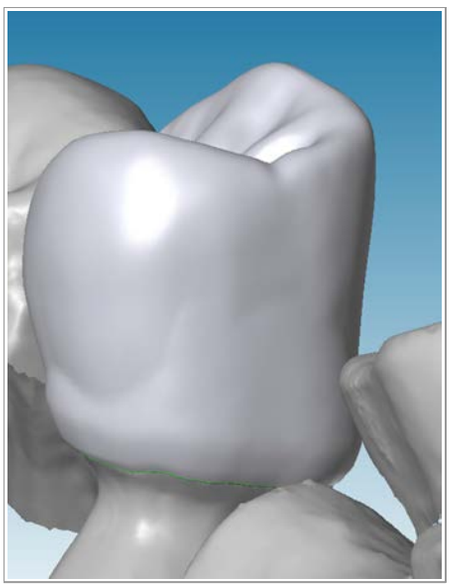


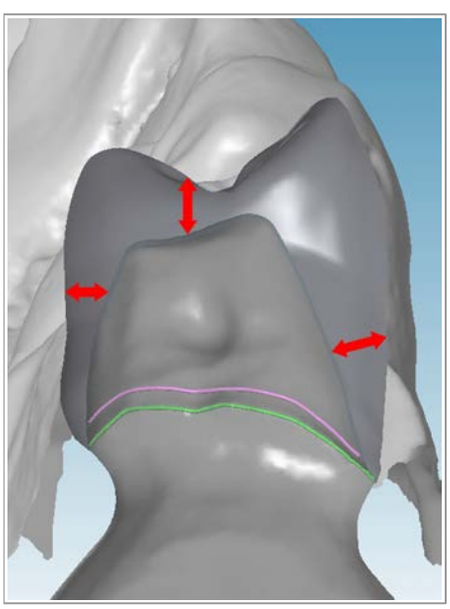
The clinical functions visible on the screenshot to the right are accessible on a reduced crown.

### 6.2.1.7 Full crown

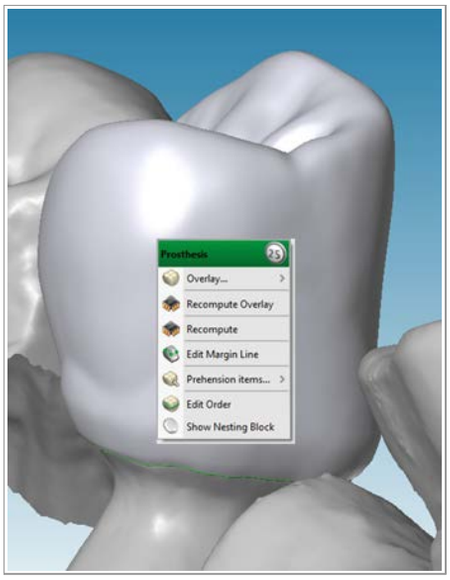
The full crown overlay is a duplication of the full morphology. No specific parameters define the full crown overlay. Obviously, the minimum thickness of material will be respected.

For information on how to adjust parameters, see chapter Local adjustment24.





All the tools allowing to customize the morphology are accessible on a full crown.

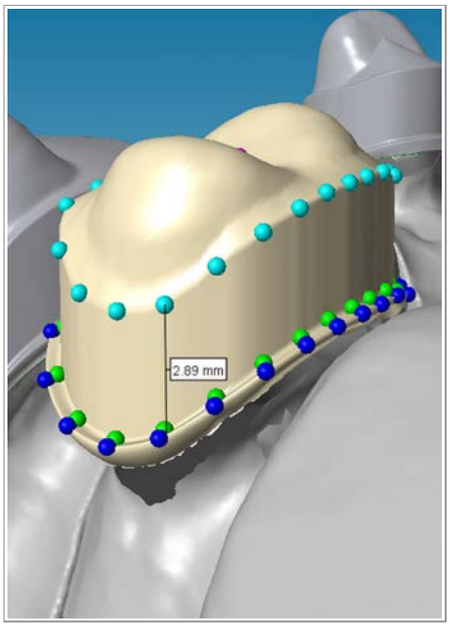



### 6.2.1.8 Telescopic crown

The Straumann® CARES® Visual 8.0 software can produce an automatic proposal of a telescopic crown.

If design modifications are necessary, select the **Edit Telescopic Crown** menu.

The editing tool provides handles to adjust the design. During adjustment, distances will be displayed in real time and the telescopic angle will be kept automatically.



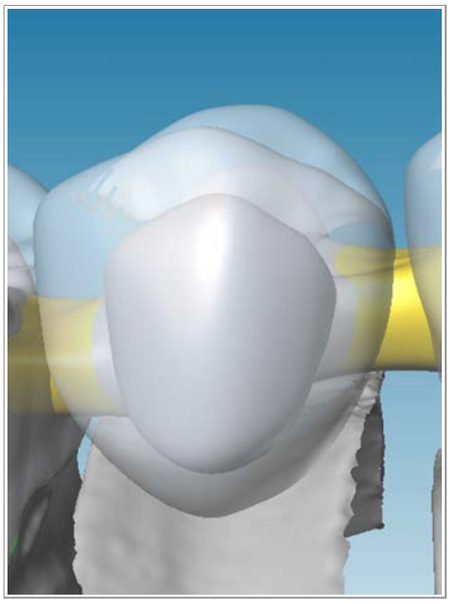

### 6.2.1.9 Pontics

Straumann® CARES® Visual 8.0 software offers two different pontic options for your bridges:

- Reduced pontic
- Full pontic

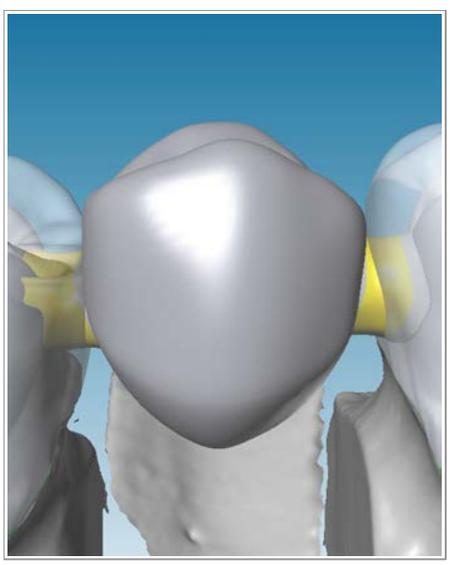
**Reduced pontic**

The reduced pontic manages the reduction from the full morphology in order to compute the required space for veneering material all around the coping. An anatomy will be computed.



**Full pontic**

The full pontic is a duplication of the full morphology.



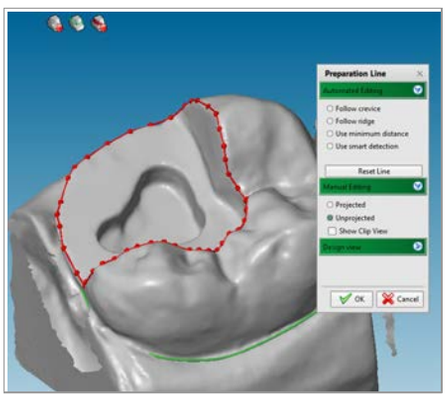
### 6.2.1.10 Inlay, onlay, partial crown

The Straumann® CARES® Visual 8.0 software allows you to construct inlays and onlays. These restorations are available depending on the selected material.

After scanning, determine the green line between gingiva and tooth as shown in the picture. When ready, click **OK**.

Next, define the preparation line, click **OK** and set the insertion axis. When finished, route the order forward.

After calculation, open the **CAD station** and drag your order in the main workspace.

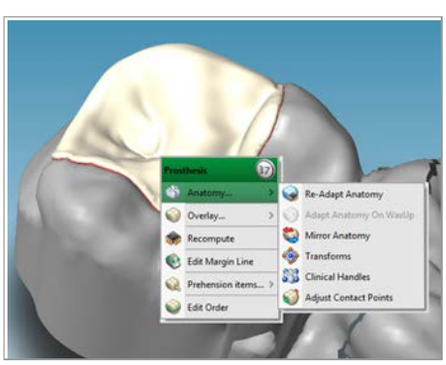



The Straumann® CARES® Visual 8.0 software computes an automatic proposal. You have the option to re-adapt or mirror the anatomy. Further, you can model both the anatomy and the overlay using transforms, clinical handles or add/remove material.

To adjust parameters, see chapter Local adjustment24 for further information.

Depending on the selected material, you can edit different parameters.

For information on prenesting, see chapter Prenesting139.



### 6.2.1.11 Veneers

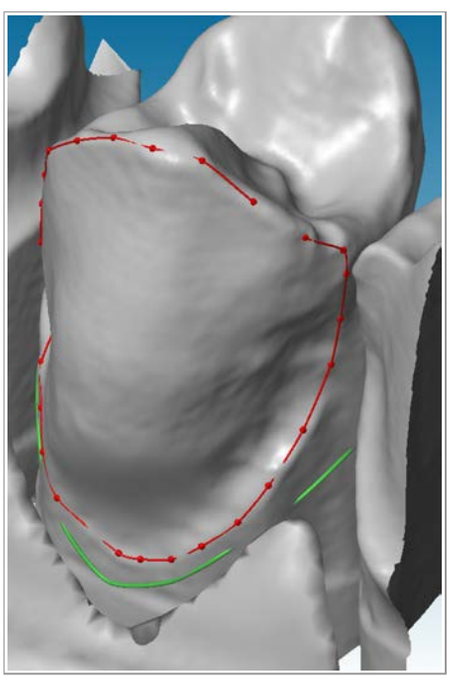
The Straumann® CARES® Visual 8.0 software offers the following veneering options:

- Anatomical veneer
- Reduced veneer
- Buccal veneer
- Veneer shell (for Maryland bridges only)

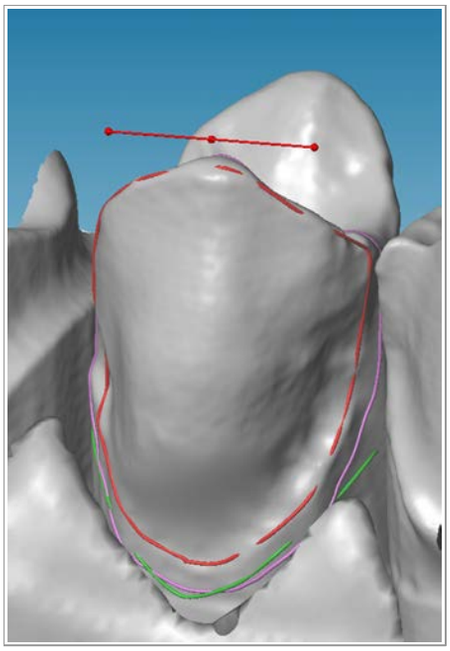
These options are available depending on the selected material.

After scanning, determine the green line between gingiva and tooth. When ready, click **OK**.

Next, define the preparation line and click **OK**. Adjust the current incisal edge-line as shown in the picture and click **OK**. When you have set the insertion axis, route the order forward. After calculation, open the **CAD station** and drag your order in the main workspace.

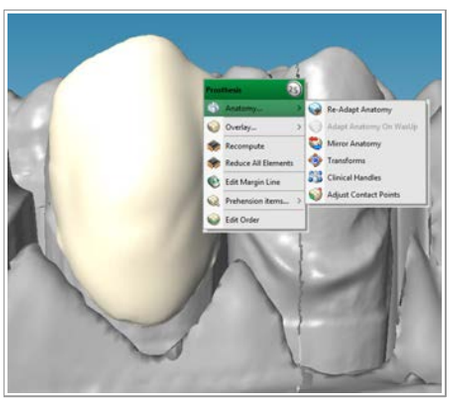


The Straumann® CARES® Visual 8.0 software computes an automatic proposal. You have the option to re-adapt or mirror the anatomy. Further, you can model both the anatomy and the overlay using transforms, clinical handles or add/remove material.



Depending on the selected material you can edit different parameters.

For information on how to adjust parameters see chapter Local adjustment24.



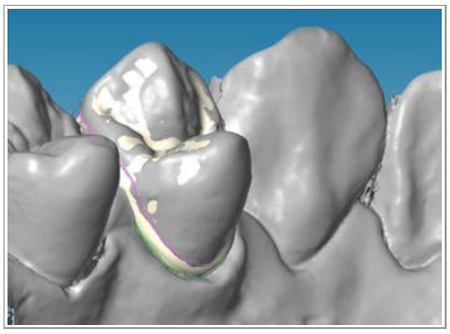

### 6.2.1.12 Diagnostic crown

A diagnostic crown can be used as a temporary prosthesis until the patient's next appointment. It is also useful to show the patient a virtual model and to obtain the patient's approval for the treatment.

To create a virtual preparation, select **Diagnostic Crown** as prosthesis. The software will create a virtual margin.

**Procedure**

- Specify the tooth and create an order for a diagnostic crown.
- Scan the diagnostic crown.
- Replicate the order and adapt the diagnostic crown to the anatomy of the model.
- Mirror the anatomy.



**Note**

Diagnostic Crowns are only available in the external workflow.

### 6.2.1.13 Additional functions for tooth-borne restorations

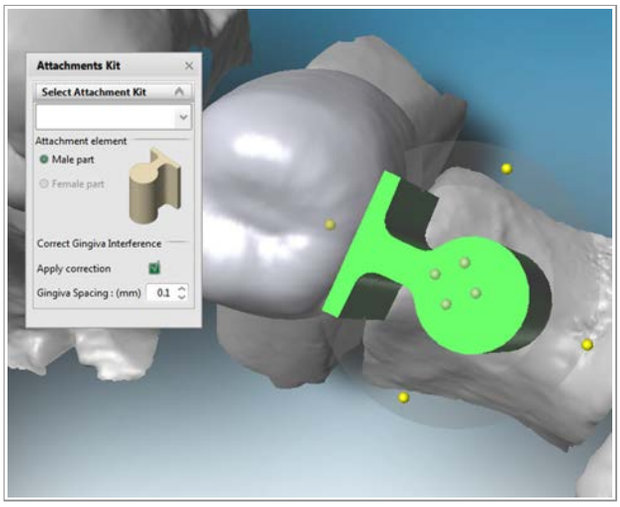
#### Attachments

During a CAD design you can place an attachment from the library into a design.

Right-click on a prosthesis and select **Attachment Item > Add Attachment Item**.

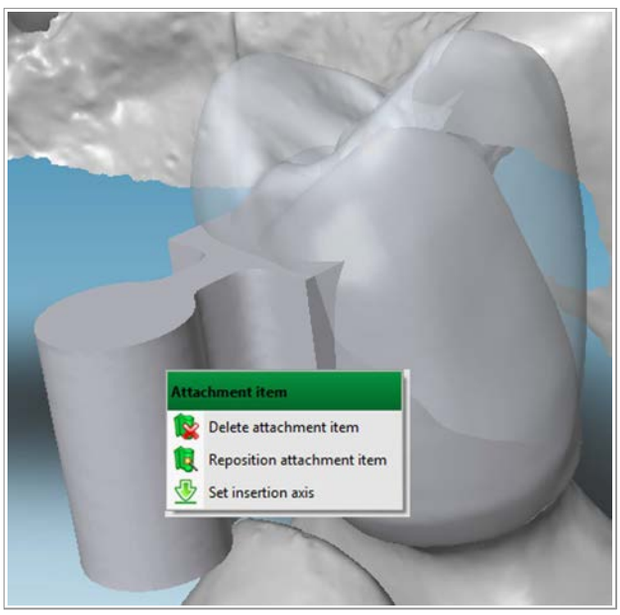
A **Parameter** window opens:

- Select an attachment from your library.
- Select female/male from the kit.
- Activate/deactivate gingival correction.
  When activated, any part of the attachment which interferes with the gingiva will be cut. Use the incremental menu to define the distance to be kept between attachment and gingiva.
- Display a preview of the attachment.




Grippers are provided to transform and move the attachment.

- **Scale** the attachment with the **green and blue handles**.
- **Move** the attachment with the **pink handles**.
- **Adjust the orientation** of the attachment with the **yellow handles**.




Click **OK** to merge the attachment with the prosthesis.

In case of further adjustments at a later point of time, right-click on the attachment and select **Reposition attachment item** from the menu to readjust size, position or orientation of the attachment.

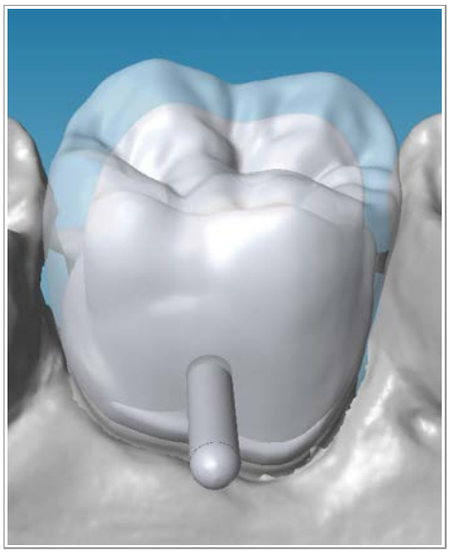
Modify the attachment insertion axis by selecting **Set insertion axis** from the same menu. If the model contains two attachments, the **Attachment Insertion Axis Editor** will display both.

- Click the **Set Insertion Axis** button at bottom left and define the insertion axis.
- Click **OK** to exit the editor.
- A window will open and inform you that all attachments of this arch will have to be repositioned manually to set effectively the new insertion axis. Click **Yes** and proceed with the next step.

## Prehension items

You can add prehension items from the context menu.

Define the prehension position by a left click. The prehension item will be perpendicular to the view; rotate the view to define the appropriate orientation. The prehension item is immediately displayed. Several prehension items can be created.



Prehension items can be deleted via the local menu which is accessible with a right click on the item.

When you are satisfied validate the items by right-clicking on the background or select **OK** in the parameter window.

## Collar

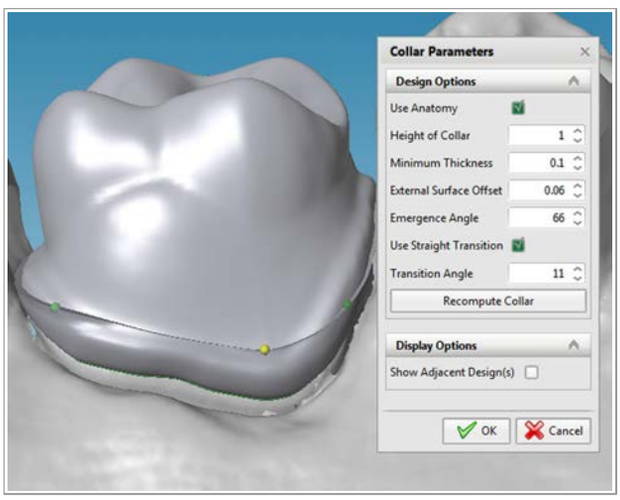
Straumann® CARES® Visual 8.0 offers an advanced Collar mode that submits an automatic proposal for a collar computed from the anatomy.

When selected, the proposal of the collar (with handles) and a parameter window will be displayed.

You can modify the position of the handles on the collar or add new handles.

You can also change collar parameters and request new proposals by selecting the **Recompute Collar** button.

The emergence angle will affect your collar mainly if you deselect **Use Anatomy**. Otherwise, the emergence profile of the collar will take account of the anatomy.

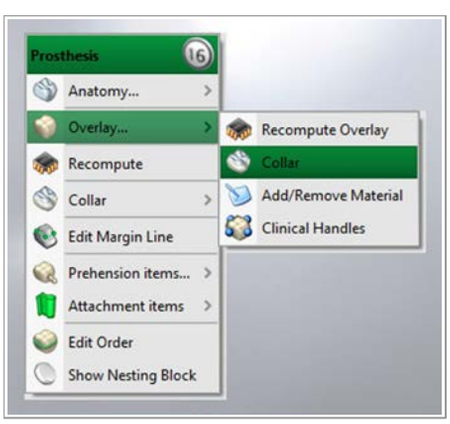



The collar can be modified or deleted using the local menu which is accessible by a right click on the collar.

If you are satisfied with the collar, validate it by right-clicking on the background or selecting **OK** in the parameter window.

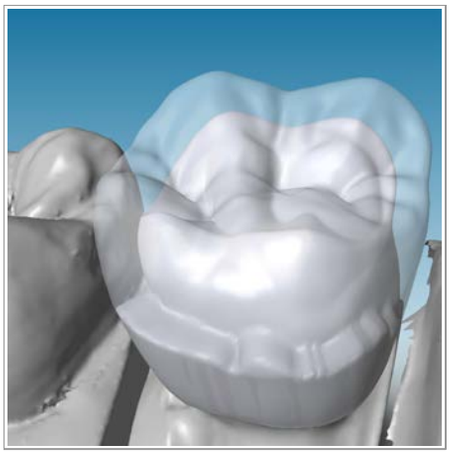
A collar can additionally be designed by using the following procedure:

Right-click on a prosthesis and select **Overlay** > **Collar**. The **Collar** tool is similar to the **Add/Remove Material** tool.

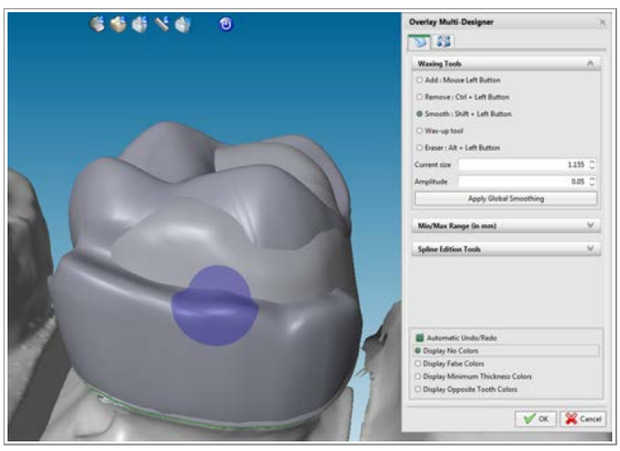


Apply material on the overlay where you want to have the collar. The collar defines the space between overlay and anatomy.

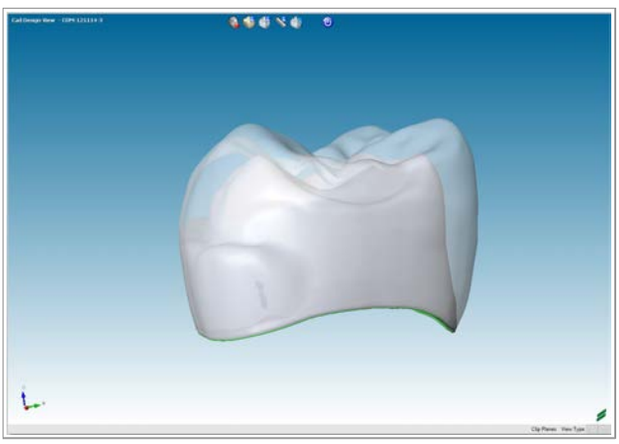
The minimum thickness surface will be shown during modification. The overlay becomes visible when you add material. The final overlay will be the result of merging the defined surface with the minimum thickness surface.



You can adjust or smooth the design with the **Add** or **Remove** tool. For more detailed information on using these tools see the Multi-Designer 68 chapter.

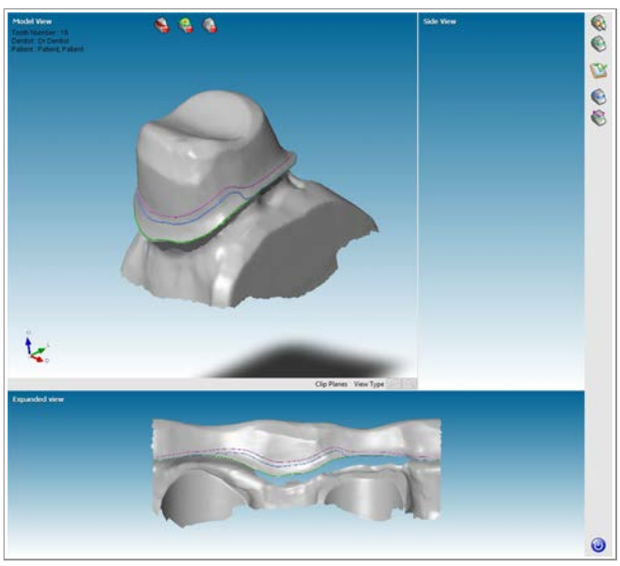



If you are satisfied with the design validate it by right-clicking and route the order forward.



## Margin cutback

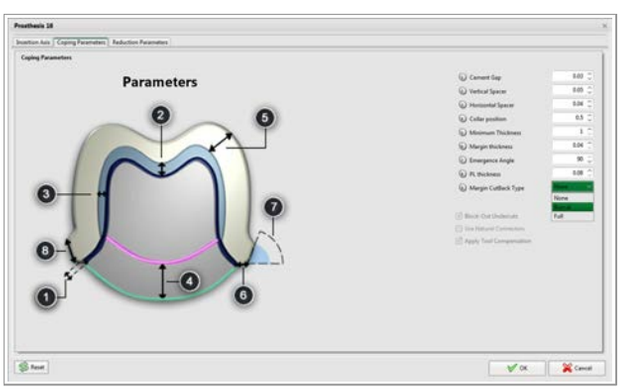
If the prosthesis has a porcelain margin, the reduced margin has already been defined during the margin edition step (see chapter Full jaw scan)🗋44. This margin line can be modified in the CAD station. Use **edit margin** line in the local menu.

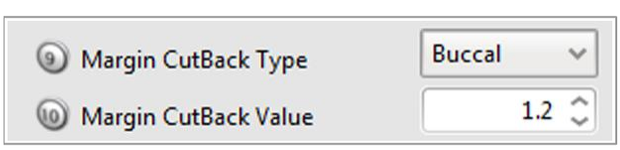


Open **prosthesis parameters** and select a **margin cutback type**:

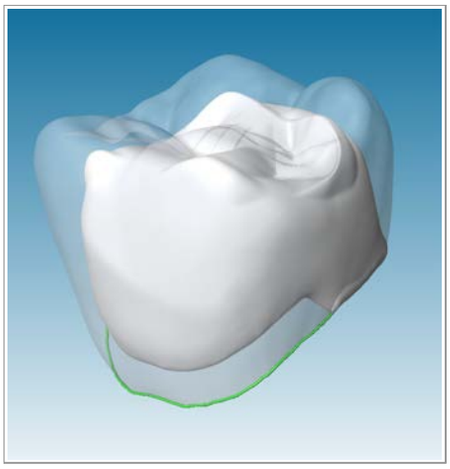
- **None**: no margin cutback
- **Buccal**: cutback on the buccal side of the die
- **Full**: cutback all around the die

Additionally, enter the **margin cutback value**.



If the prosthesis has an anatomy, the cervical part of the anatomy will be adapted to the real margin not the cut-back. The cervical part of the overlay will be adapted to the cutback margin.



### 6.2.2 Implant-borne restorations

This chapter describes all the restorations which are based on Straumann® implants and have been tested in the validated workflow.

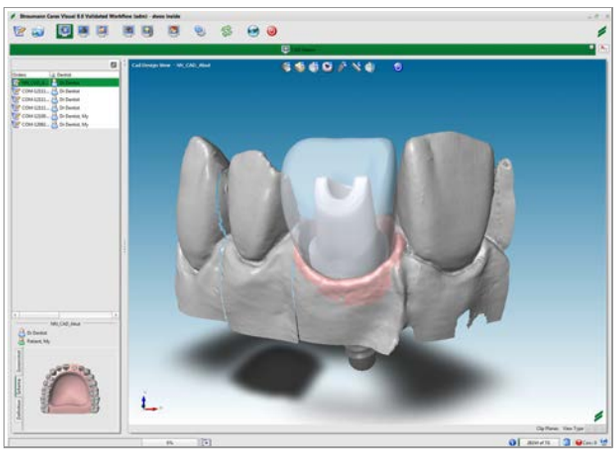
**⚠ Precaution**
Abutment angles of more than 30° may cause the abutment to break. Abutment angles are controlled in the validated CAD workflow. In a wax-up workflow the user must control the abutment angle through manual measurements.

**⚠ Precaution**
Inaccurate scanbody reconstruction may lead to an incorrect prosthesis angle or position. Therefore, thoroughly follow all the instructions for the scanbody (701149 IFU CARES® Mono Scanbody and 150.771 IFU Straumann Scanbody).

### 6.2.2.1 Custom abutment

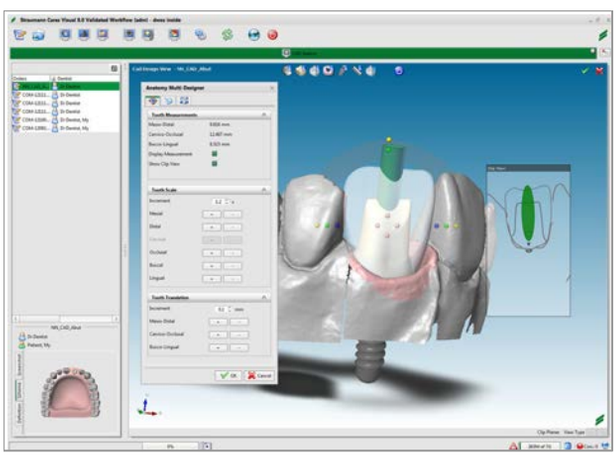
The custom abutment shows the initial proposal after dragging and dropping the order into the **CAD station view** window. Right-click onto the restorations to show the context menu with multiple selections, such as:

- Anatomy
- Overlay
- Recompute
- Adjust Axis
- Edit Margin Line
- Edit Order
- Nesting Block



The anatomy can be re-adapted, mirrored or even adjusted at the contact points. The overlay is recomputable. Both offer the possibility to change the design within the Multi-Designer.

A clip view will be displayed, when opening the Multi-Designer.



The **Anatomy** or **Overlay Multi-Designer** contains various tabs.

**Transformation** tab:

- Measurements
- Scale
- Translation

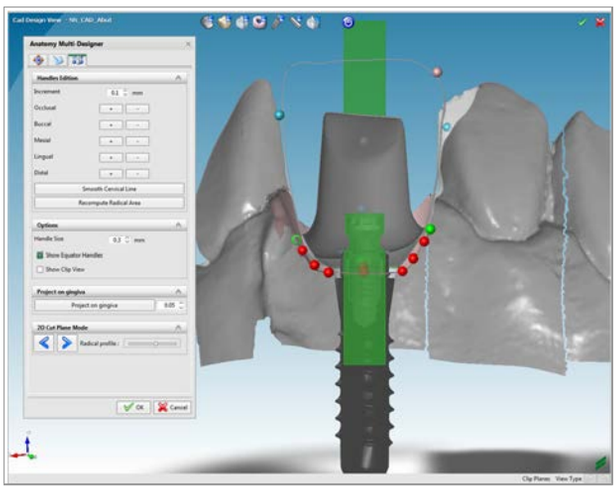
Adjustments can also be made with the help of the grippers.

**Add/Remove material** tab with modeling tools for surface adjustment.

**Handle edition** tab with specific functions for implant-borne restorations, such as:

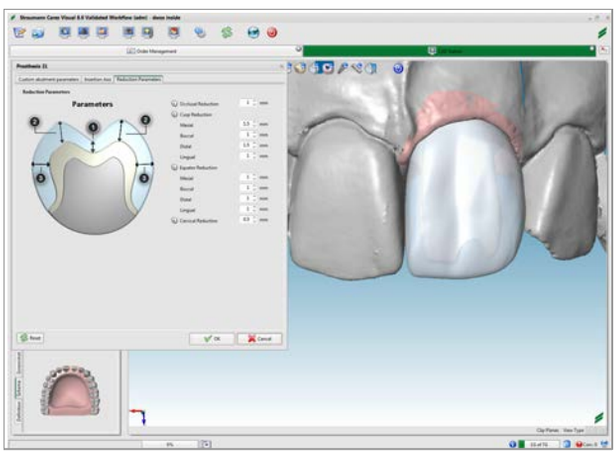
- Project on gingiva
- 2D Cut plane mode

Both tools will affect the emergence profile. The **2D Cut Plane** tool flips the design into a 2D cut view with the possibility to move the 2D cut view sectionwise using the blue arrows. Such movement will affect the curve of the emergence profile. The emergence profile gripper may also be moved as appropriate.



### 6.2.2.2 Reduced crown on implant

The reduced crown manages the reduction from the full morphology in order to compute the required space for veneering material all around the coping Straumann® CARES® abutment. The minimum thickness of material for the overlay will be respected and the anatomy will be computed.




Parameters are accessible for the user to define the veneering reduction on the mesial, distal, buccal and lingual sides on cusp and equator line. Cervical and occlusal reductions are also accessible.

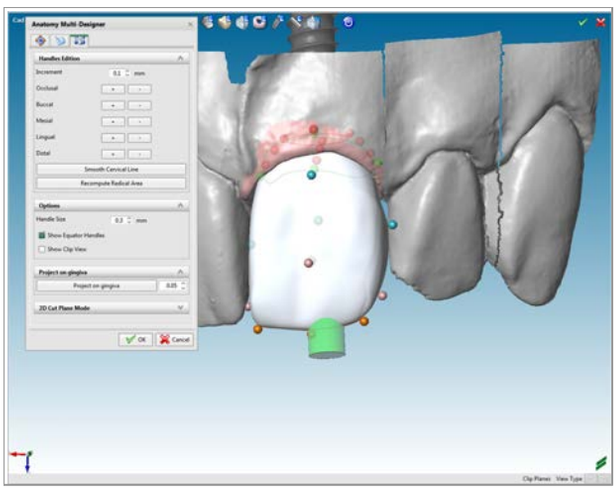
A cross-section shows the reduction for veneering material and also the respect of the minimum thickness of material.

These clinical functions are accessible on a reduced crown.

### 6.2.2.3 Full crown on implant

The full crown overlay is a duplication of the full morphology. No specific parameters define the full crown overlay. The minimum thickness of material will be respected.

All the tools allowing to customize the morphology are accessible on a full crown.



### 6.2.2.4 Custom abutment with waxing

The custom abutment with waxing is utilizing the wax-up sleeve holder within the scan process. After the digitization of the customized wax-up of an abutment design, the abutment will be computed fully automatically.

Routing will end up in the production stage.

## 6.2.3 Screw-retained bars and bridges (SRBB)

⚠ **Precaution**

Incorrect implant bridge or bar design parameters may lead to a breakage of the prosthesis:

- Always check the dimensions of the bridge or bar. If an element is colored red or yellow then it is too small.
- A too large bridge span between implants may lead to damage. Do not exceed the specified number of pontics.

**⚠ Precaution**

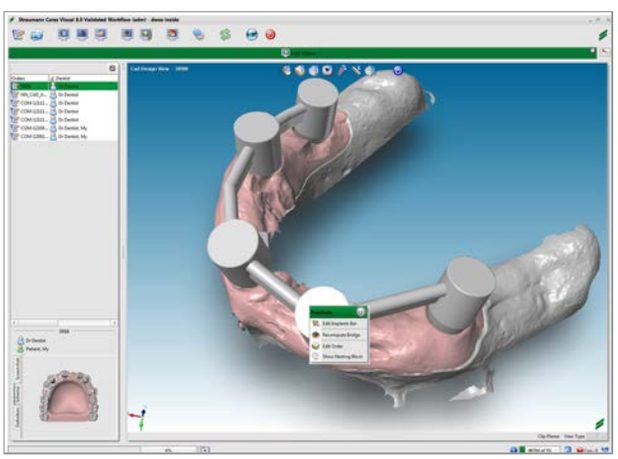
For a bridge or bar, the maximum deviation between all implants should not exceed:

- 36° with only tissue-level interfaces,
- 24° for bone-level interface or a mix of bone-level and tissue-level implants.

The software will check that these angles are not exceeded. Bridges that exceed these angles may damage the implant interfaces.

The SR Bar initial proposal can be adapted by a right mouse click on the restoration within the following context menu:

- Edit implants Bar
- Recompute bridge
- Edit order



**Edit implants bar** opens an option window in order to manipulate the bar or bar type, the segment and the pillar.

Within the **Options** window, the user can enable some help tools as well as the preferred bar profile. Additional grippers can be defined by a left click on the bar segment. Depending on the view, these grippers can be moved within certain limits.

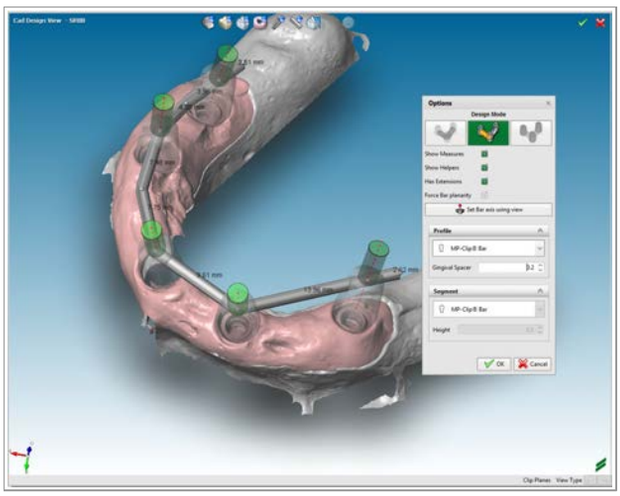
**🕮 Note**

The set bar axis will be performed in the currently used view plane. The user chooses an appropriate occlusion view to define the insertion axis of the bar.

The segment option allows the user to define the main profile type of the bar, however, a segment profile can be assigned to each segment by highlighting the segment on the bar proposal.

The pillar option allows the user to individually adjust the implant pillars by highlighting them. Adjustments can be made with regard to:

- Base angle
- Base height
- Top cone angle



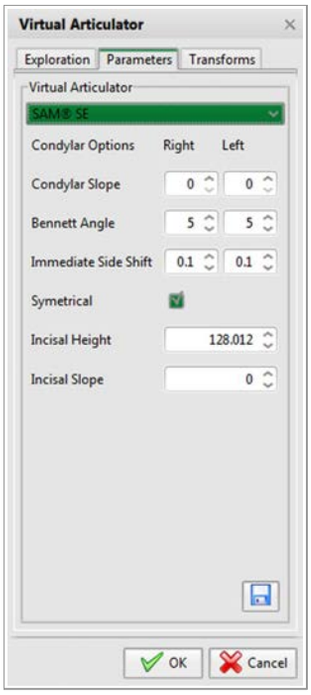
### 6.2.4 Virtual articulator

#### 6.2.4.1 Using the virtual articulator

**1.** Design the prosthesis with the **CAD software**.

**2.** Click the **Virtual Articulator** icon to activate the virtual articulator.

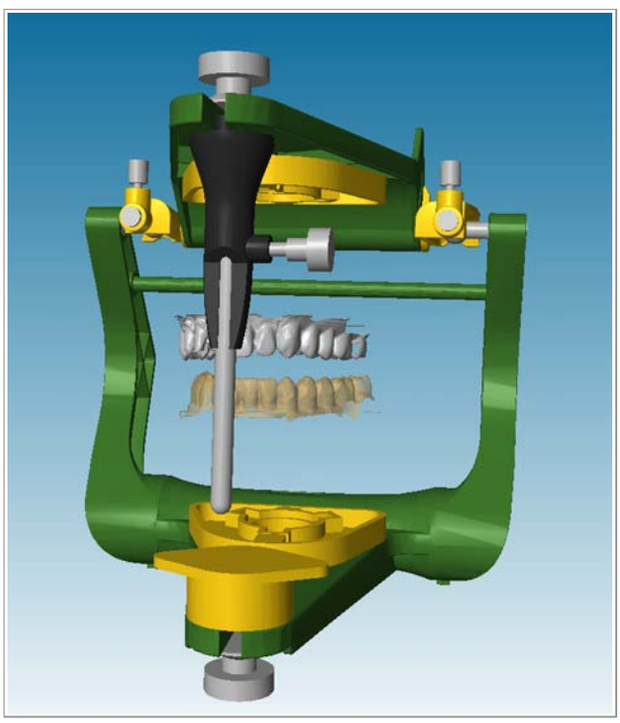
**3.** Choose the **Parameters** window, select the proper articulator and set the parameters.




**4.** In the **Transforms** window, you can adjust the model positioning in the articulator space.

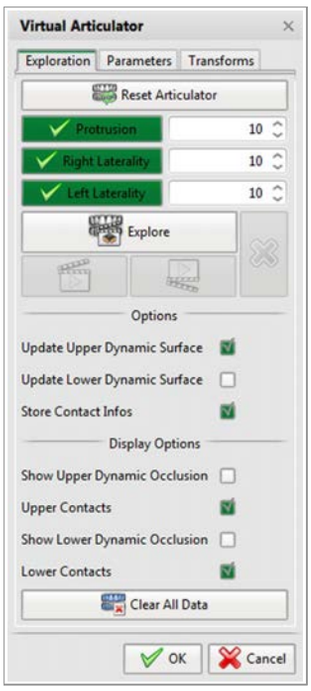
**Note**

Since the models are scanned by the occlusion key scan and with the help of the external positioning aid, the initial positioning can be adjusted within the transformation tab for a sufficient position in the virtual articulator.



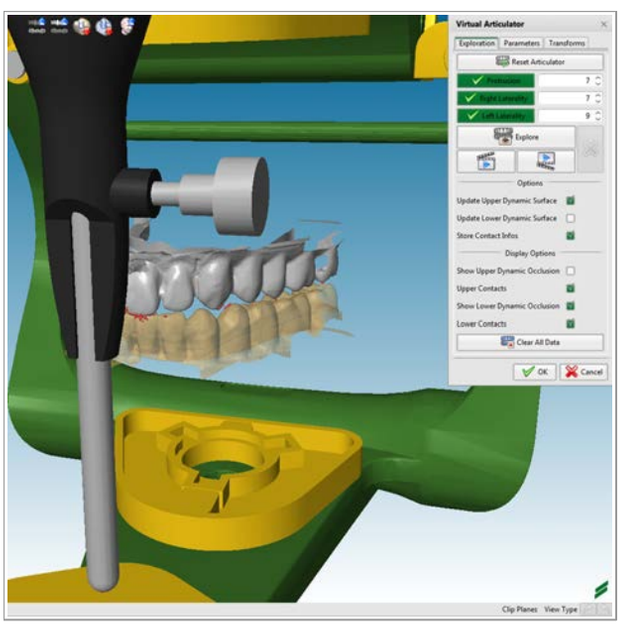
**5.** To articulate the virtual articulator, you can either:

- move the incisal shaft directly or
- use the **Exploration** tab
  Set all the protrusion and laterality parameters and activate the movements by clicking the **Explore** button.



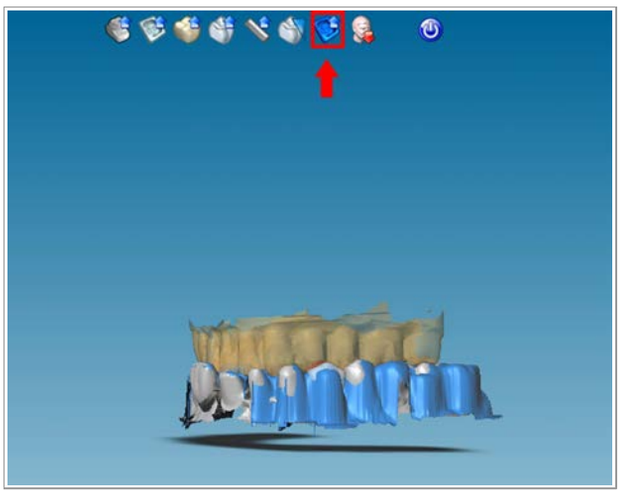

**Note**
If you intend to use the dynamic occlusion as reference for the design, you must activate the proper display options before clicking **Explore**.

**6.** Following the simulation applied to the clinical case, the software will highlight the occlusion contact zones in red and the dynamic occlusion will appear in blue.

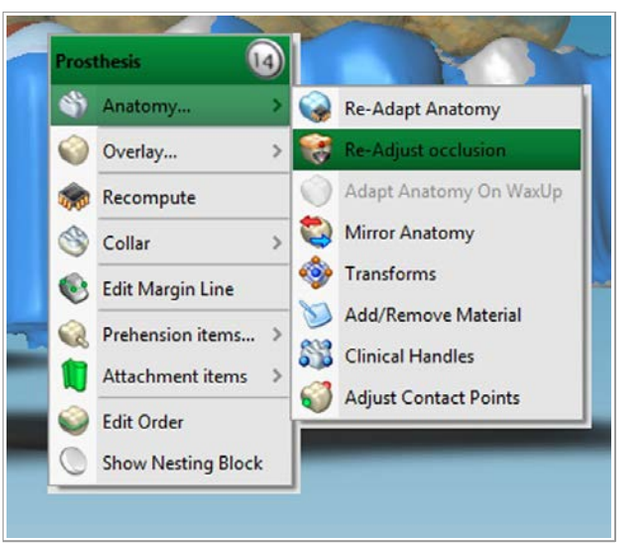


**7.** In the CAD station (if this option has been selected at step 5), the **Dynamic Occlusion** icon will show. Activate it to see the reference to your model and prosthesis.

**8.** The dynamic occlusion will allow you to see if occlusion adjustments are needed for your design.



**9.** To adjust the occlusion, right-click on the prosthesis and select **Anatomy > Re-Adjust occlusion**.

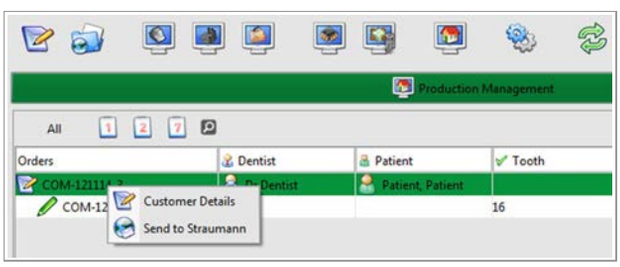



**10.** Get back to the design process.

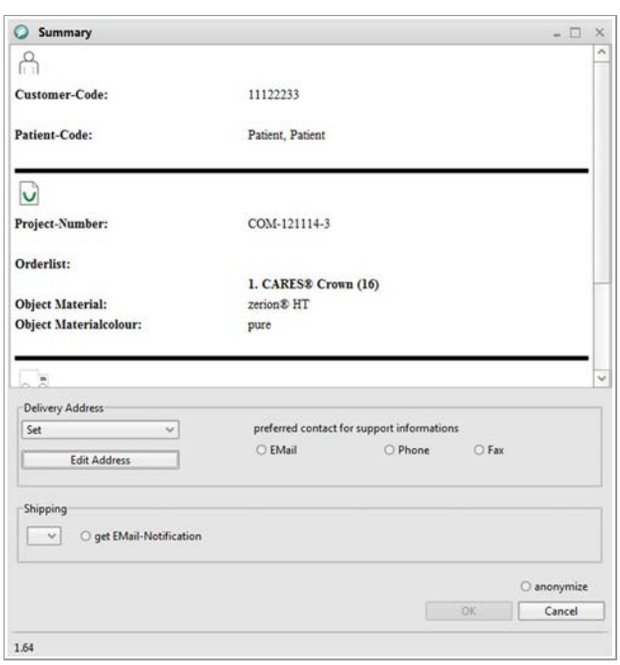
# 7. PRODUCTION MANAGEMENT

The final production management process contains several steps to complete the order and send it to a validated Straumann® milling center.

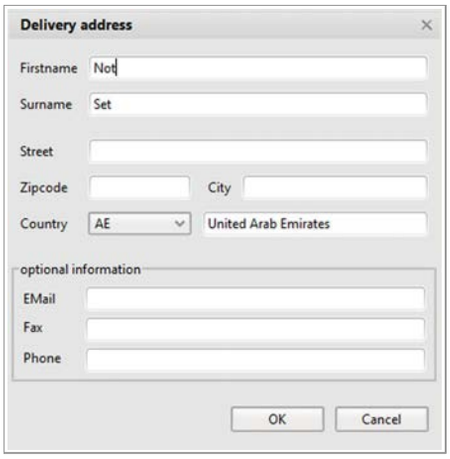
1. Click on the **Production Management** icon.
2. Select your order and open the **context menu**.
3. Choose **Send to Straumann**.




A summary of your order will be displayed.



Check the order and choose the delivery address. With the editing function, you can adjust the selected address.




Accept the Straumann® General Terms and Conditions. Forward the data by clicking **OK**.

**Remark**
In the **Production Management** module, you can select and send either a complete order or individual objects within an order. The Straumann® CARES® Visual 8.0 software will allocate to each order a special ID number. This ID will be required in case of any questions with regard to the sent order.

You may want to send one or more objects out of an order again. Before resending them, first create a copy of your order through the Order management and have a new ID number generated.

The ID number can be found in the Order management and in the Production Management module. The Straumann® CARES® Visual 8.0 software will inform you about the data transfer status during and after the data transfer.

**Verification**
The Straumann® CARES® Visual 8.0 software ensures that only Straumann® materials and restorations will be sent to the validated Straumann® milling center.

The Straumann® CARES® Visual 8.0 software will verify that all required sending details are correct and saved completely.

# 8. ADMINISTRATIVE APPLICATIONS

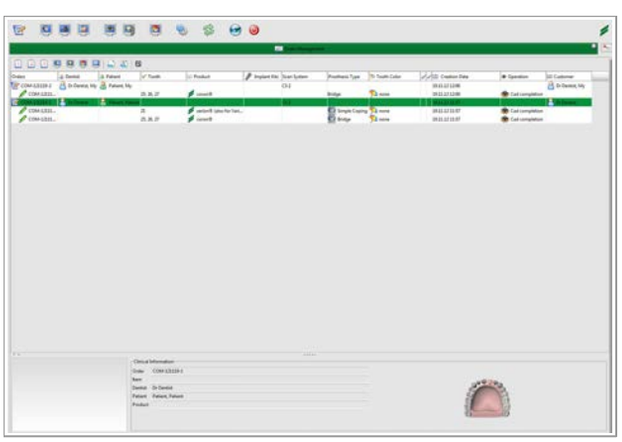
## 8.1 Order Management

The Straumann® CARES® Visual 8.0 software includes an **Order Management** that provides global access to your Straumann systems. The **Order Management** will allow:

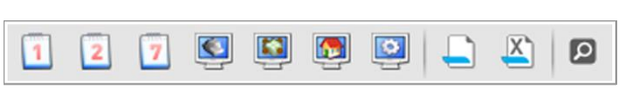
- View all orders
- Manage operational steps of an order
- Manage production
- Additional advanced functions, such as purge, archive, export and import order

For starting the **Order Management**, select **Settings** in the main toolbar and select **Order Management**.

The **Order Management** window appears.



A specific icon allows filtering the orders displayed by date (1 for today, 2 for the last 2 days…) or operation steps. A search button permits an advanced search by criteria and dates.

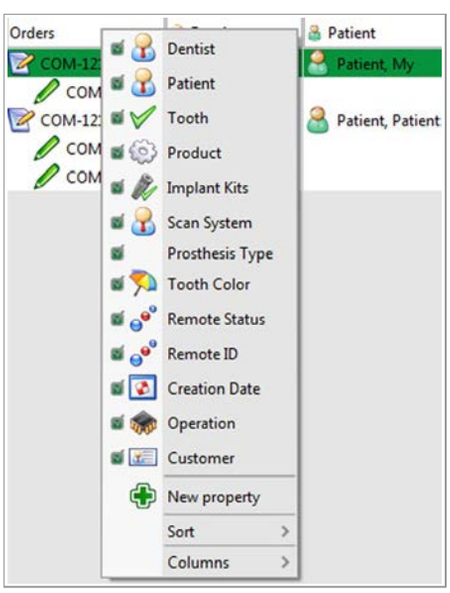


A table view lists all the orders which meet the filtering criteria and displays further details such as order number and attached order items.

The bottom part shows a summary of the order (a preview of the prosthesis can be displayed).

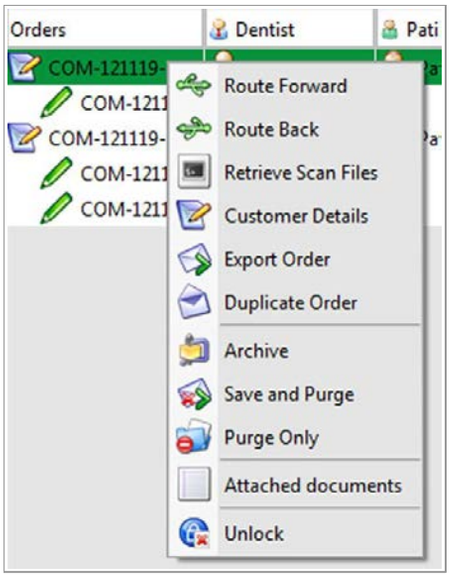
Multiple orders or order items can be selected simultaneously using the **CTRL** or **SHIFT** key.

If necessary, the column organization can be modified by a right click in the header.

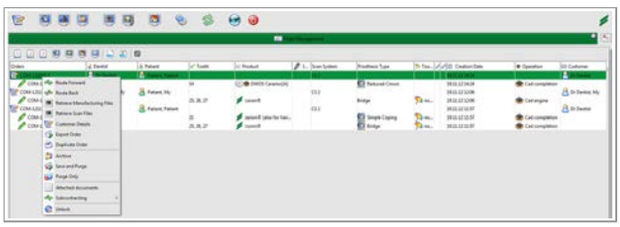



Actions are available for order and item by a right click. The list of possible actions is different for an order and order item and varies according to the operation step (e.g. for an order waiting for scanning, you cannot retrieve scanning and manufacturing files).

The actions shown on the screenshot are accessible within the **Order** view. Use this, for instance, to manually **Route Forward** or **Route Back** between procedural steps.




The actions shown on this screenshot are accessible within the **Item order** view.



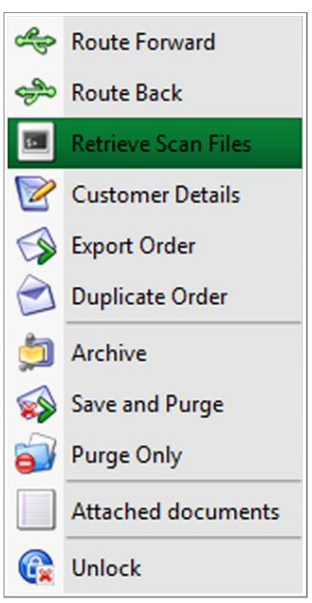
**Customer details** display information on the dentist.

The **Preview Model** displays a preview of the prosthesis at the bottom of the screen. **Open application** starts the application corresponding to operation step.

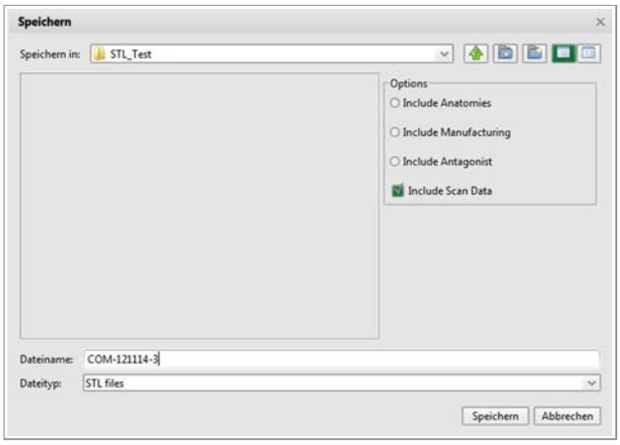
## 8.2 Retrieving files

### 8.2.1 Retrieving scan files

Retrieving scan files allows saving scanned data as an STL file. The function is accessible at order level.



Define the path where the STL file will be saved. Automatic file names are generated (with _prepscan added for preparation arch and _bitescan added for antagonist arch if existing).

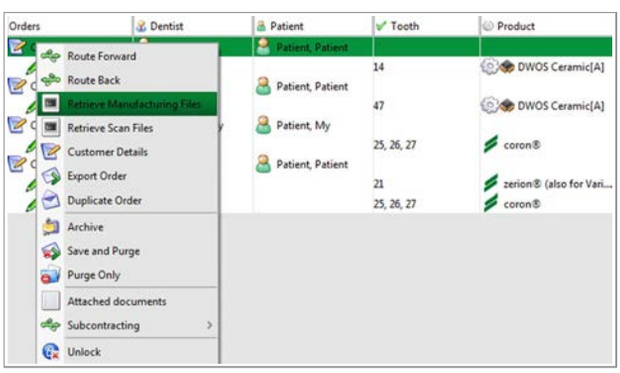



**Note**
Additional data can be included in the STL. This can be useful for advanced prostheses designed in several sessions (e.g. exchange of data with partial framework).

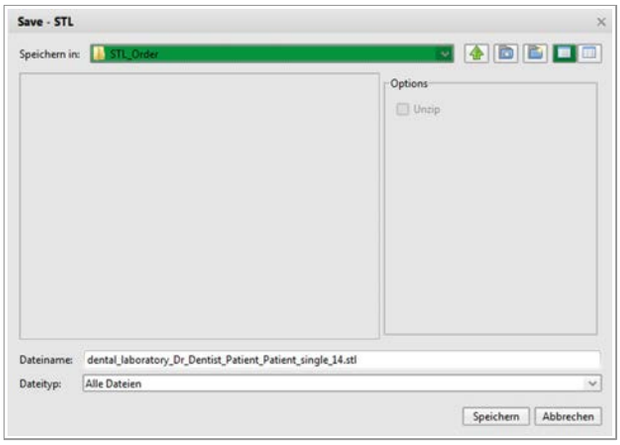
### 8.2.2 Retrieving manufacturing files

Retrieving manufacturing files allows saving data necessary for manufacturing. The manufacturing files organization will depend on your manufacturing solution. The function is accessible at the order and order item level.

At order level, **Retrieve manufacturing files** will save the files of all order items included in the order.



Define the directory where the file(s) shall be saved.




File names are generated automatically as follows:
laboratory name_dentist name_patient name_tooth number

At order item level, **Retrieve manufacturing files** will save only the files of the order item.

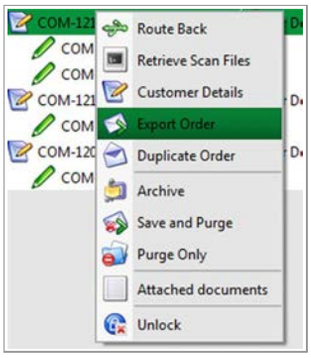
Define the path. You can change the automatically generated file name.

Depending on your manufacturing settings, you may select the file type. Accordingly, different files will be generated to fulfill the requirements of the manufacturing solution.

## 8.3 Exporting/importing orders

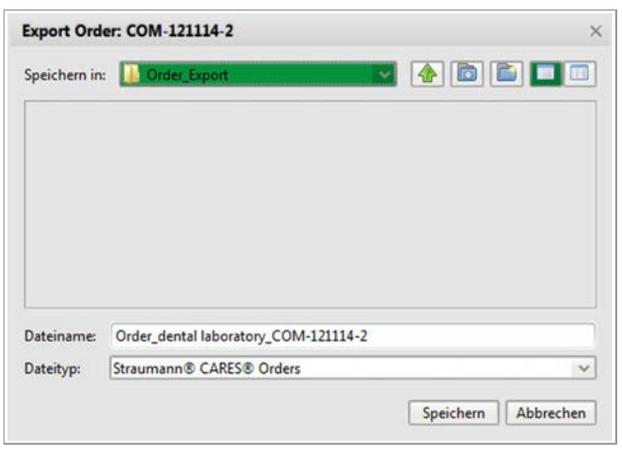
**Export order** and **Import order** (in the validated workflow only with the Straumann® CARES® users) allow exchanging orders with other DWOS® system user. Export and import order functions safely and restore all the data related to an order (scan, prosthesis design, manufacturing and administrative data).

**Export order** is accessible, in the Order Management main window, through the local menu of an order.




**Note**
**Export order** is accessible at order level, not at order item level.

**Export order** requests you to define the path where the file shall be saved.

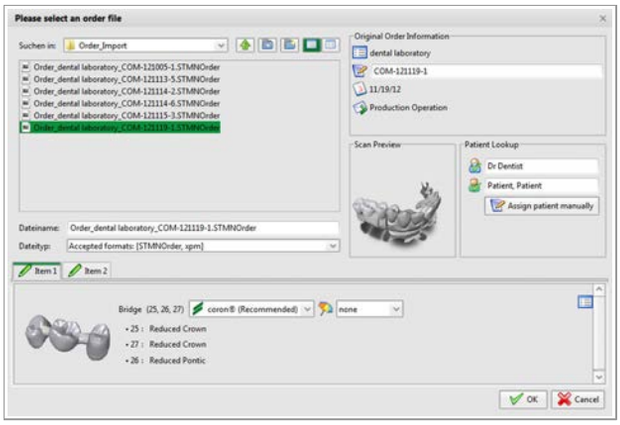



A file is created in the defined location with the *.order* extension. This order file can be managed as an usual file (e.g. e-mail or upload to FTP site).

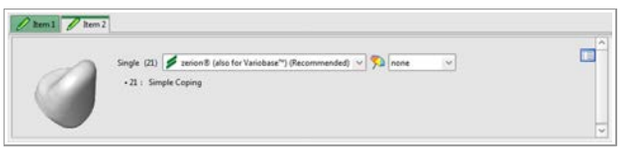
**Import order** is accessible, in the Order Management main window, through the **Import order** button.

In the **Import order** window, select the path where the *.order* files shall be saved. The **Import order** window summarizes information about the original order, such as:

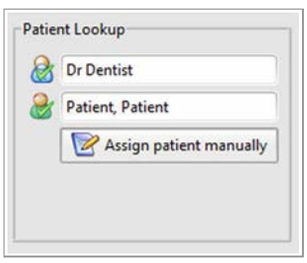
- Original administrative information
- Scan preview
- Material information
- Tooth numbers
- Prosthesis preview



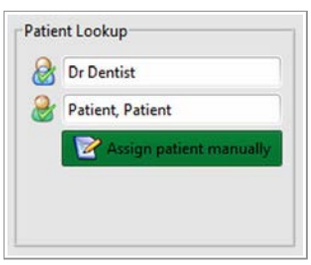

**Note**
Should several order items be included in the order, each of them is available as preview.




When importing an order, you decide if you want to auto-assign patient and dentist (i.e. the order will be automatically attached to the corresponding patient and dentist) or if you want to assign the patient manually.




In case of manual patient assignment, define the corresponding patient and dentist.

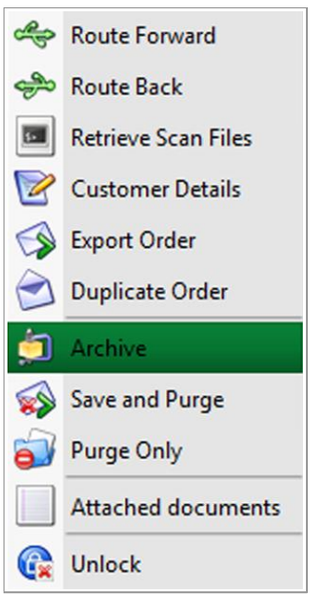



Press **OK** in the **Import order** window to start importation. An information window will pop up when done.

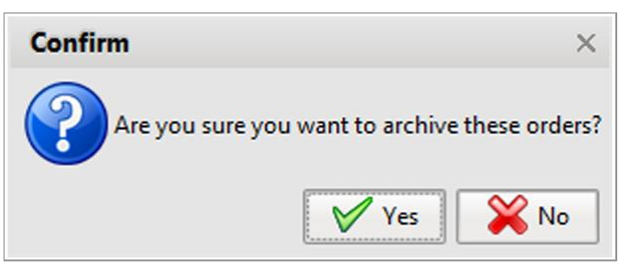
## 8.4 Archiving, saving and purging

**Archive**, **save** and **purge** are accessible at order level.

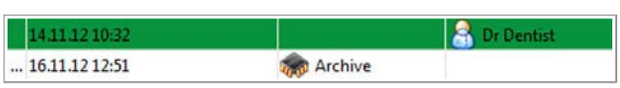
**Archive** removes the order from the list of orders in the production process (i.e. it routes forward the order to the ultimate operation step). The Archive is always accessible in the **Order** view.



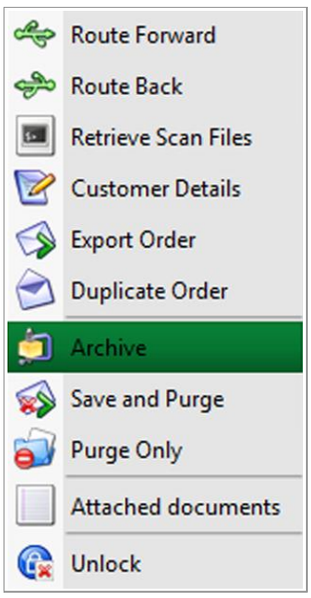

A confirmation is requested.




The operation step will be set to Archive.

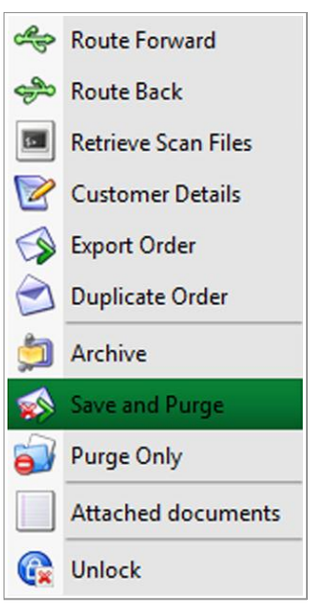


To access the order, use the **Archive** button in the **Order Management**.

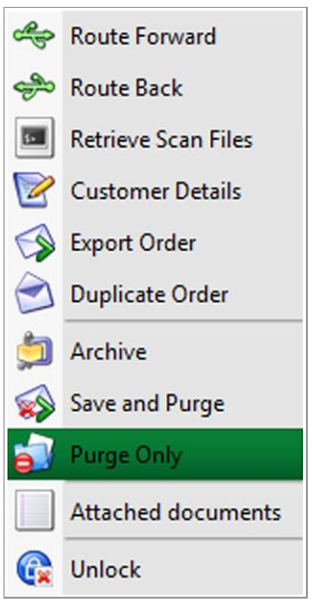



Define the path where the order will be saved.

**Save and Purge** exports the order and removes it completely from the CARES® system. Now, the order will only be re-accessible through the **Import Order** function.



**Purge Only** removes the order completely from the CARES® system.




A confirmation is requested.

Confirm
Are you sure you want to purge completely from the Database all the archived orders ?
The information will be removed forever from the system.
Yes
No

**Note**
After **Purge Only**, order data cannot be retrieved.

## 8.5 Attached documents

**Attached documents** are accessible at order level.

**Attached documents** allow managing images or documents related to a case. All images generated by the camera button are automatically attached.

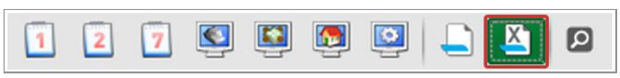
**Attached documents** display a window listing all attached documents and allow viewing, adding and accessing to a content panel.

## 8.6 Refreshing data from server

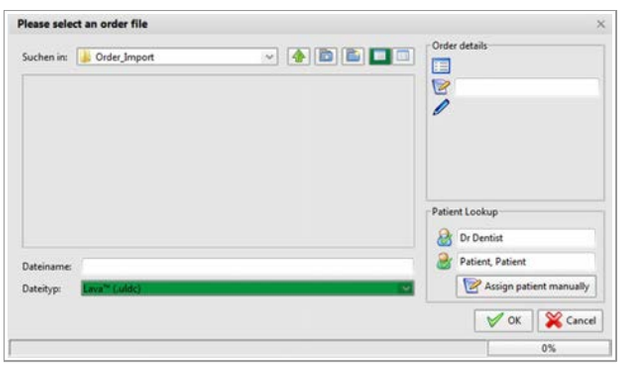
Straumann® CARES® Visual 8.0 software offers comprehensive data management and multi-station configuration. This may sometimes lead to delay between actions and the update of the displays. A specific icon exists to refresh data from the database which is stored on the server. For refreshing data from the server, click on the icon in the main toolbar.

## 8.7 Importing third party order

Straumann® CARES® Visual 8.0 software can process data coming from third party solutions. To import such data, click the **Import third party order** button in the **Order Management**.



A window appears allowing to select import type and file location. The Straumann® CARES® Visual 8.0 validated workflow supports only validated import sources.

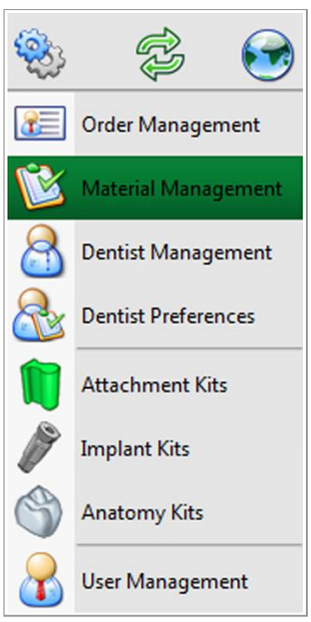


# 9. ADDITIONAL FUNCTIONS

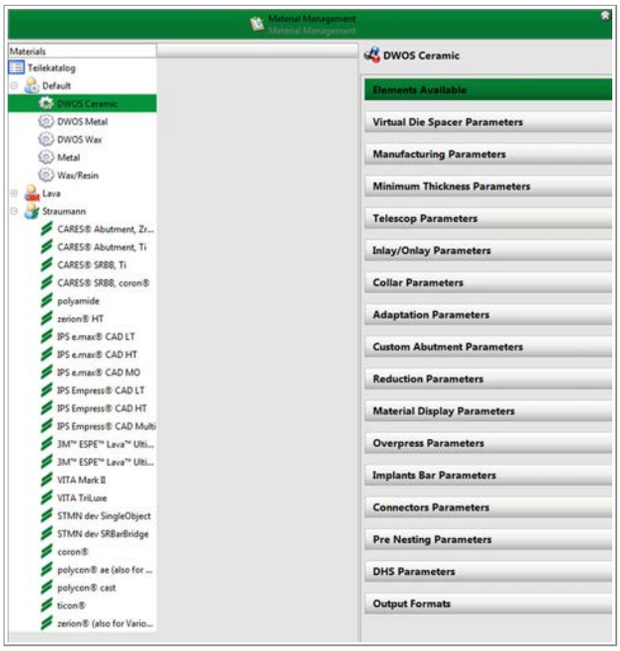
## 9.1 Material management

The **Material Management** application defines all the parameters related to materials. Straumann® material parameters are preset, validated and related to the Straumann® CARES® Visual 8.0 Validated Workflow. All third party materials which can be set up in the Straumann® CARES® Visual 8.0 External Workflow require a parameter setting in the **Material Management** application.

To start the **Material Management** application, press the **Settings** icon in the main toolbar and select **Material Management**.



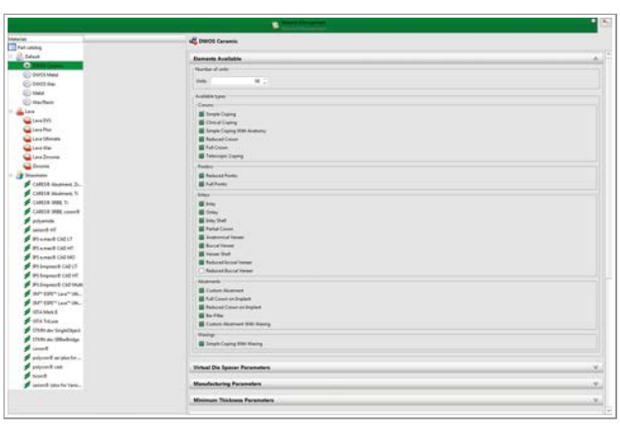
The **Material Management** application displays the list of accessible materials and the table of all parameters. Parameters are grouped by topics, each group can be expanded by pressing the arrow on the right side or in the green banner.



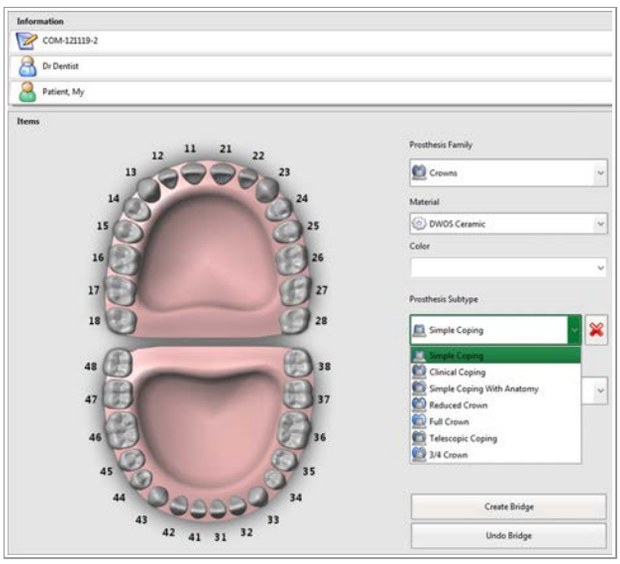

### 9.1.1 Elements available

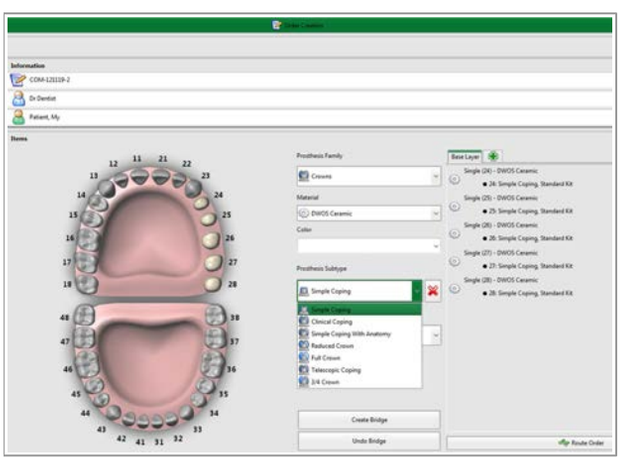
This function is available in the external workflow only.

The table defines the maximum span of a bridge and prosthesis type accessible for the material.



This material parameters table will affect the **Order Creation** and **Prosthesis Type** windows.

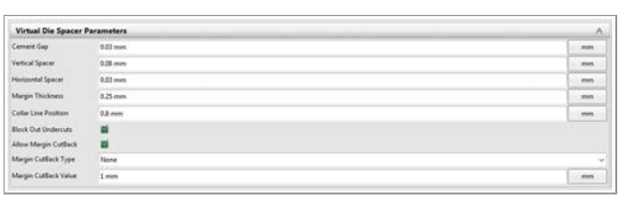


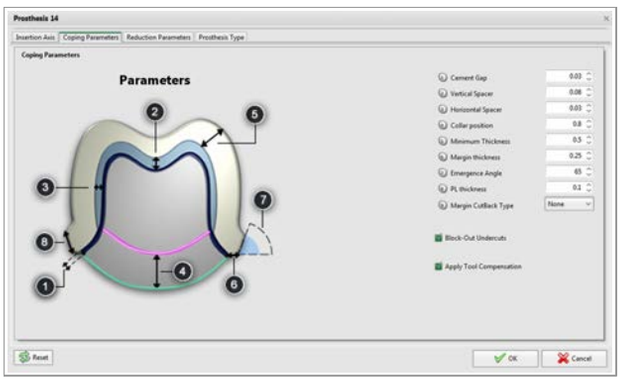
## 9.1.2 Virtual die spacer parameters

This function is available in the external workflow only.

This table defines the default value for cement gap, virtual spacer, margin thickness and collar lines.



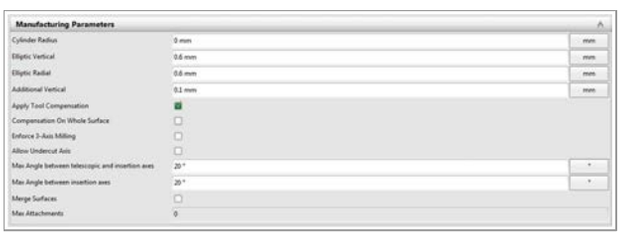
This material parameters table will affect the **Coping Parameters** window.



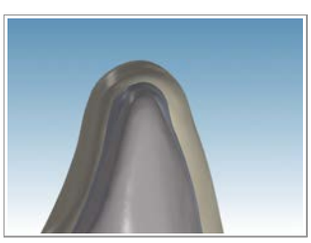

### 9.1.3 Manufacturing parameters

This function is available in the external workflow only.

This table defines advanced parameters related to the manufacturing process. It manages the accessibility restriction of the milling tool in order to achieve proper milling of the element.



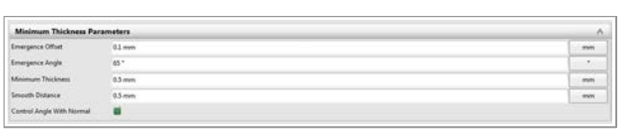

For example, on sharp anterior, according to the smallest tool used for milling, it is sometimes necessary to generate additional space over the die.



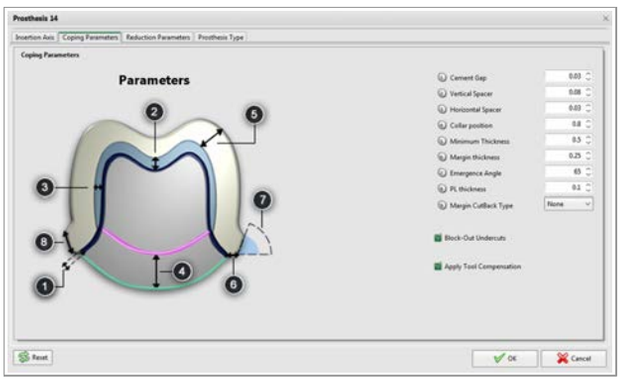
### 9.1.4 Minimum thickness parameters

This function is available in the external workflow only.

This table defines the default minimum thickness of material.



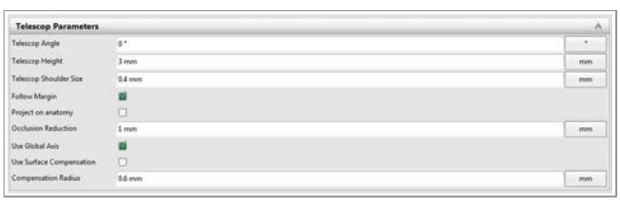
This material parameter table will affect the **Coping Parameters** window.




### 9.1.5 Telescope parameters

This function is available in the external workflow only.

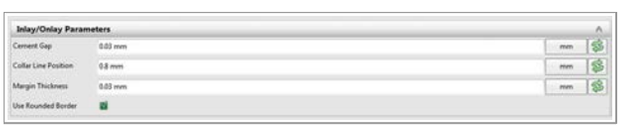
This table defines the parameters used for telescopic crowns.




### 9.1.6 Inlay/onlay parameters

This function is available in the external workflow only.

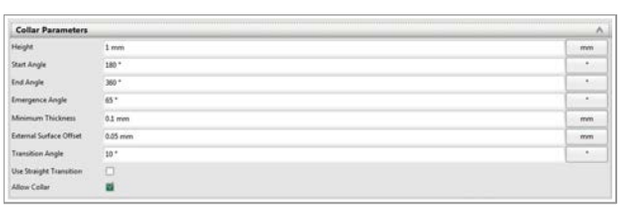
This table defines the parameters used for inlays/onlays.



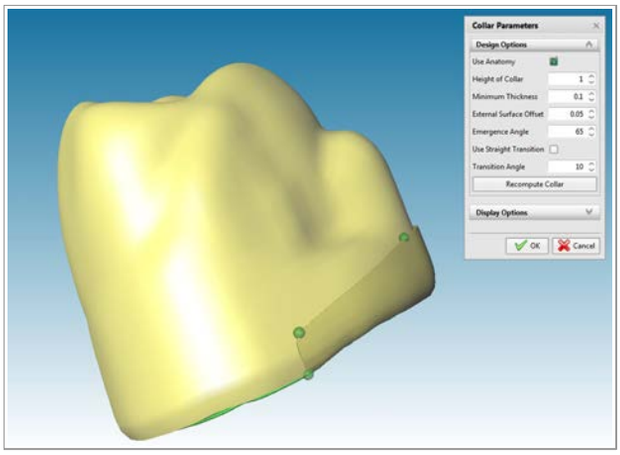

### 9.1.7 Collar parameters

This function is available in the external workflow only.

This table defines the default value for an advanced collar.



This material parameter table will affect the **Collar parameters** window.

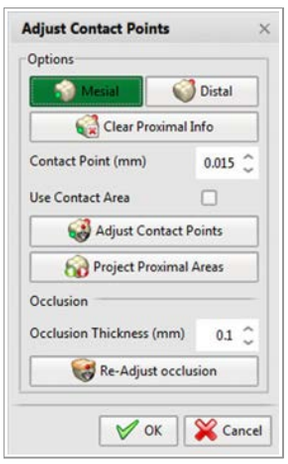



### 9.1.8 Adaptation parameters

This function is available in the external workflow only.

This table defines the default value for contact point occlusion adjustments.

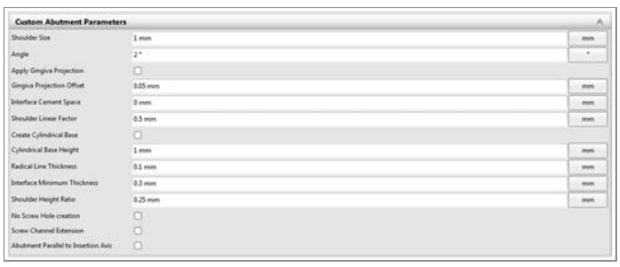
This material parameter table will affect the **Adjust Contact Points** window.



### 9.1.9 Custom abutment parameters

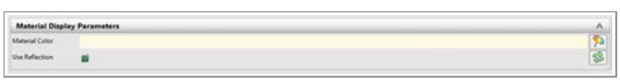
This function is available in the external workflow only.

This table defines the default value for customized abutments.



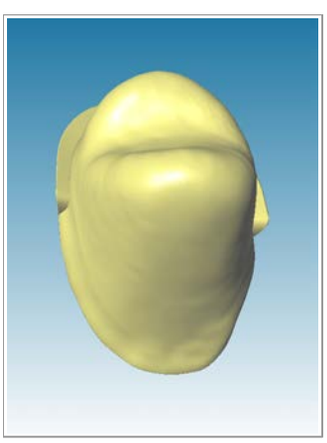

### 9.1.10 Material display parameters

This function is available in the external workflow only.




**Material Display Parameters** allow defining the color and reflection mode that will be used for displaying the material in the CAD station.

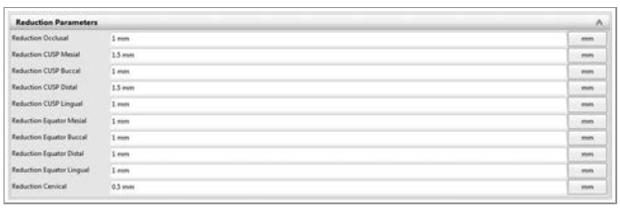
To define a color, click on the chromatic circle and select the color.



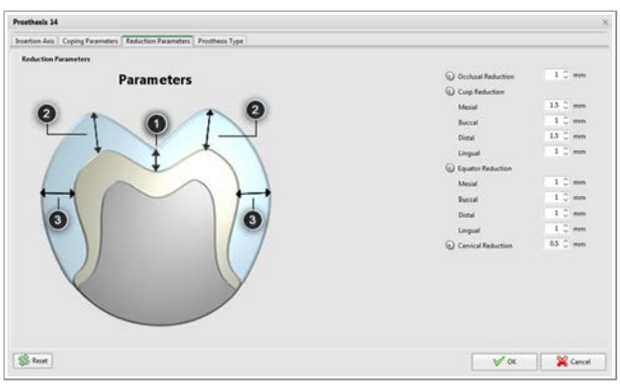
### 9.1.11 Reduction parameters

This function is available in the external workflow only.

This table defines the default value for clinical coping and reduced crown computation.


Reduction Parameters
Reduction Occlusal 1 mm
Reduction CUSP Mesial 1.5 mm
Reduction CUSP Buccal 1 mm
Reduction CUSP Distal 1.5 mm
Reduction CUSP Lingual 1 mm
Reduction Equator Mesial 1 mm
Reduction Equator Buccal 1 mm
Reduction Equator Distal 1 mm
Reduction Equator Lingual 1 mm
Reduction Cervical 0.5 mm

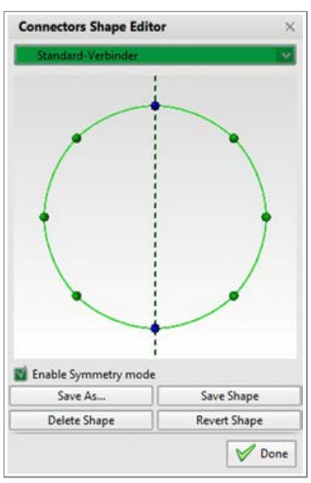
This material parameter table will affect the **Reduction Parameters** window.



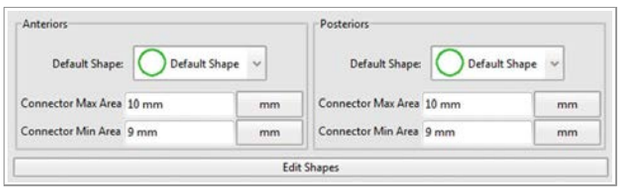

### 9.1.12 Connectors parameters

The predefined connector shape can be added by pressing **Edit Shapes**.

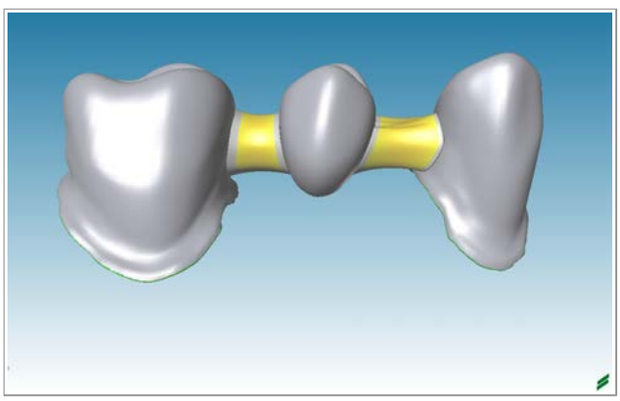
With the help of the **Connectors Shape Editor** you can create your own connector shape. After being saved, the shape will appear in the shape list.



Connector parameters also define the values for minimum and maximum diameter of a connector. Different values can be managed for anteriors and posteriors.




This material parameter will affect the colors of the connectors.

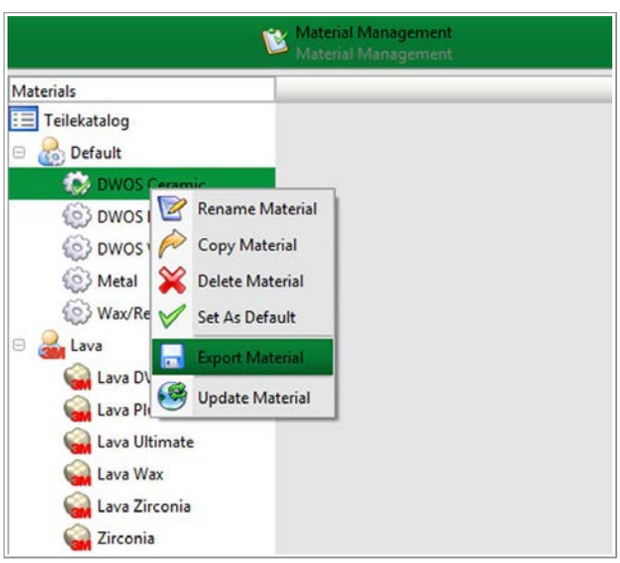


### 9.1.13 Exporting, importing and updating materials

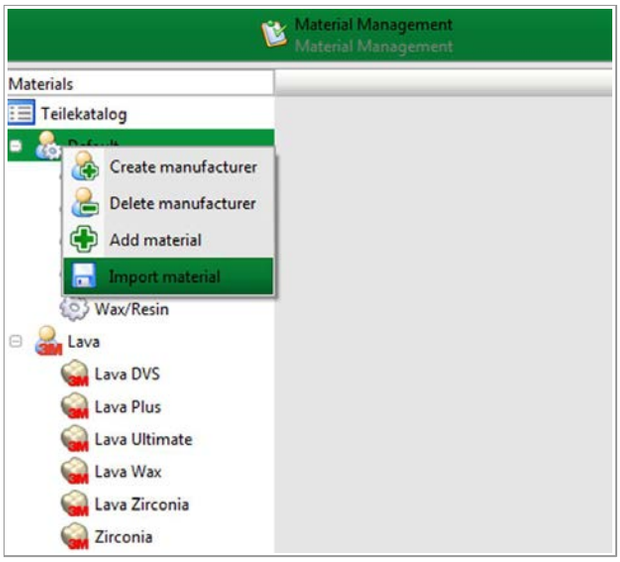
This function is available in the external workflow only.

A material definition can be imported and exported.

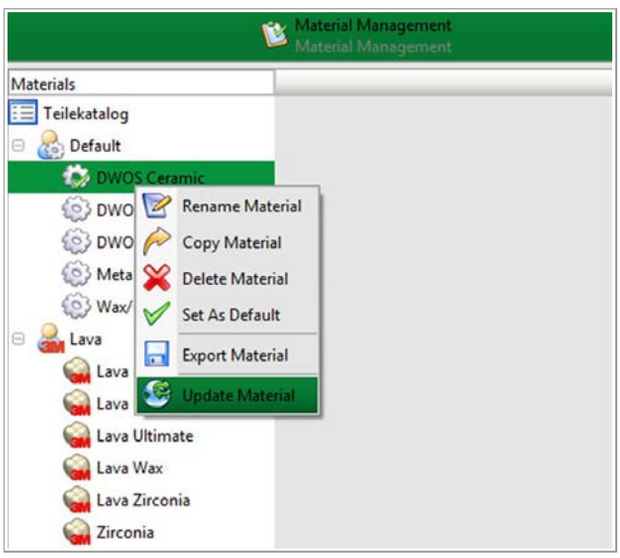
Right-clicking on a material gives access to an **Export Material** option. Material definitions are saved as XML files.



The **Import material** function is accessible at the bottom of the material list.



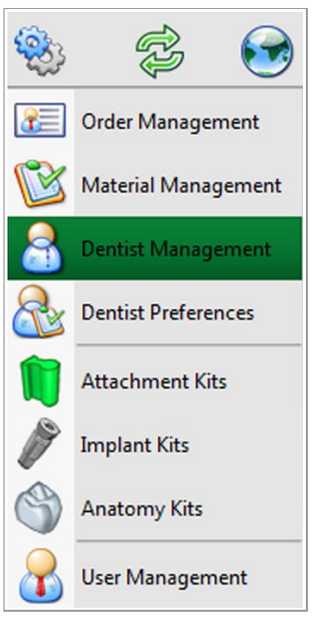

The material definition can also be updated with data sent by a DHS production center with the **Update Material** option.



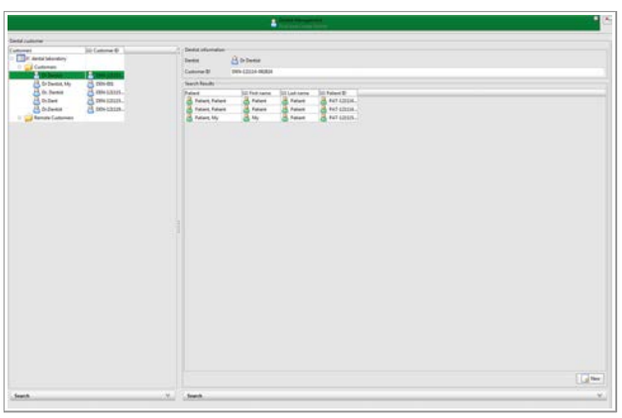
## 9.2 Dentist management

The **Dentist Management** application permits you to organize dentists and patients.

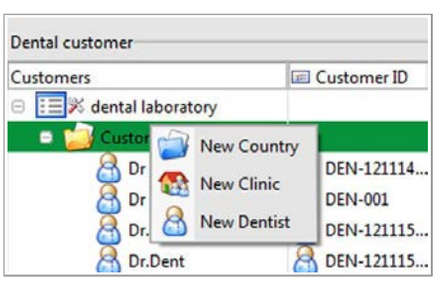
To start the **Dentist Management** application, press the **Settings** icon in the main toolbar and select **Dentist Management**.




Dentists are organized by countries and clinics. Independent dentists can also be managed. The main **Dentist Management** window looks as shown on the right side.



Dentists can be sorted by country, clinics and names. You can add countries, clinics and dentists by clicking the right mouse button – the window will appear and the respective icon can be selected. You are either requested to choose a country when the window appears or to complete the information for the new clinic or dentist. You always need to confirm by clicking on the **OK** button.

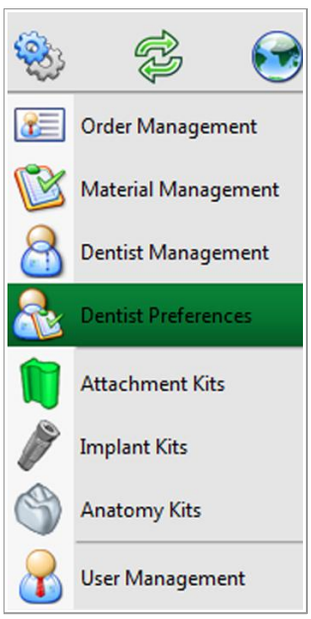


## 9.3 Dentist preferences

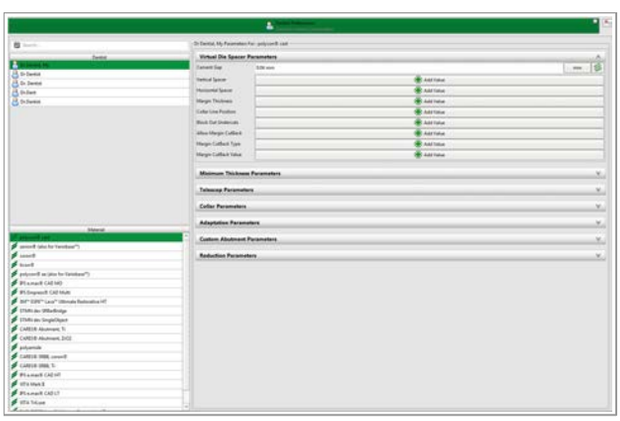
The **Dentist Preferences** application permits you to customize prosthesis parameters per dentist. By default, all the prostheses have the parameters defined within the material manager.

If preferences are defined for a dentist, such preferences will supersede the material parameter.

To start the **Dentist Preferences** application, press the **Settings** icon in the main toolbar and select **Dentist Preferences**.




Preferences are defined per dentist and per material. The preferences window looks as shown on the right.

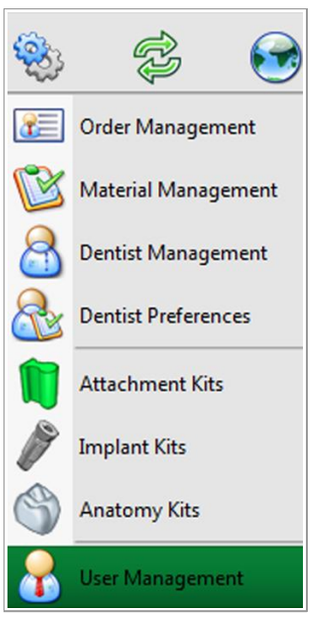


1. Parameters can be customized per dentists which are organized by groups. They are a subset of the material parameters. To expand a group, click on the arrow at the right side of the banner.
2. For customizing a parameter, expand a group. A window pops up.
3. Select the corresponding **Add Value** button and enter the customized value.
4. If you want to set the default value again, select the **Switch back** icon.

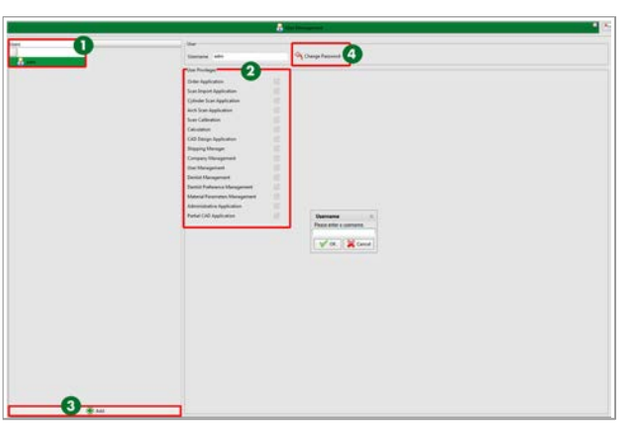
## 9.4 Managing users

The **User Management** application allows you to create additional user accounts and define for each user the authorized actions within the Straumann® CARES® Visual 8.0 software.

To start the **User Management** application, press the **Settings** icon in the main toolbar and select **User Management**.




The **User Management** window looks as follows:




1. User list
2. User privileges

**Entering a new user**

- Press the **Add** button (3).
- Enter a username in the pop-up window.
- Use the **User privileges** list to define the actions the new user will be authorized to perform.

**Changing the password**

- Press the **Change Password** button (4) and enter the new password (twice to avoid mistake).

**Note**

The **User Management** application acts case sensitive.

**Editing user privileges**

- Click on the user name in the user list.
- Adjust the user privileges as appropriate.

**Deleting a user**

- Right-click on the user name in the user list.
- Select the appropriate action from the context menu.

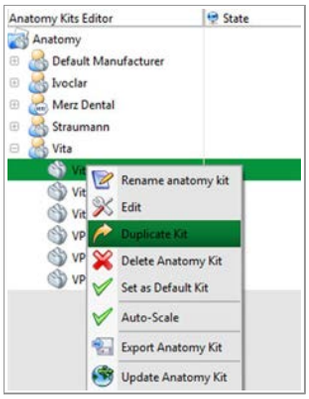
## 9.5 Other functions

### 9.5.1 Anatomy editor

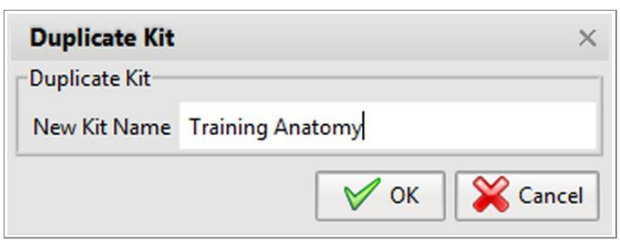
Create and modify personal anatomy families with the Anatomy Editor function in the Straumann® CARES® Visual 8.0 software.

Start the **Anatomy Editor** by opening the **Settings** menu and select **Anatomy**.

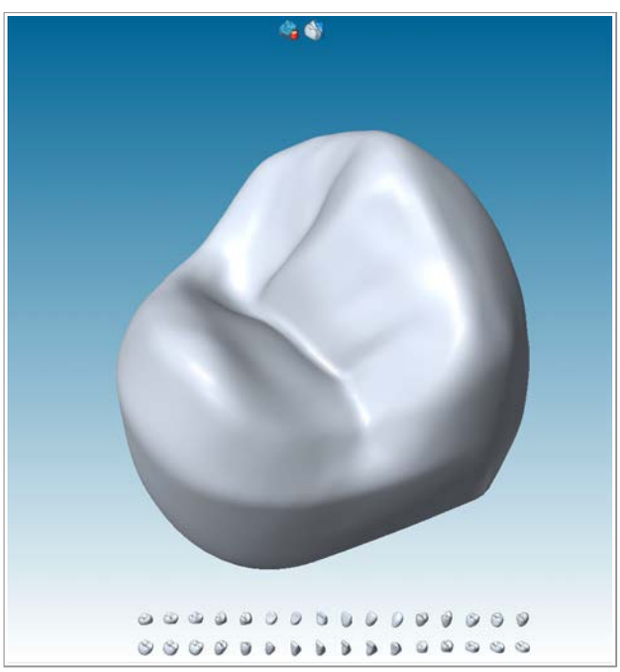
The duplication of a **Default Anatomy Kit** starts the creation of a new family. For that purpose, select an **Anatomy** and click on **Duplicate Kit**. The chosen **Anatomy Kit** will be the template for the adaptions.




Enter the name of the new **Anatomy Family**. The new Anatomy family appears in the **Anatomy Editor** menu. Drag & drop the new **Anatomy Family** into the **main window** to select an order.




While the new **Anatomy Family** is selected, thumbnails are displayed at the bottom of the main window. To load the desired **Tooth Anatomy**, click on the equivalent thumbnail.



Use the **vertical toolbar** in the **Anatomy Editor** to modify the morphology of the tooth.

| Description | Icon |
|---|---|
| Add/remove material (see chapter Add/remove material 69 for further information) | |
| Clinical handles (see chapter Handle edition 70 for further information) | |
| Reload last saved anatomy | |
| Reload anatomy from anatomy kit | |
| Save the modifications applied to the anatomy | |

**Note**
The **Anatomy Editor** has only limited functions in the validated workflow.

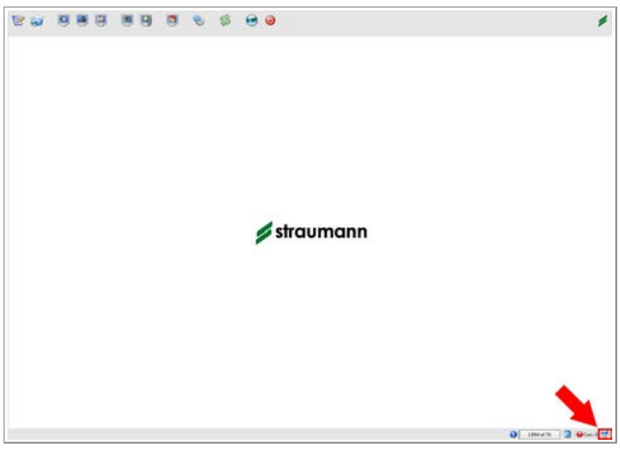
**Note**
The **Anatomy Editor** automatically generates the symmetrical anatomy when a tooth is selected (i.e. if a 14 is created, the 24 will be automatically generated).

### 9.5.2 Sleeve holder registration

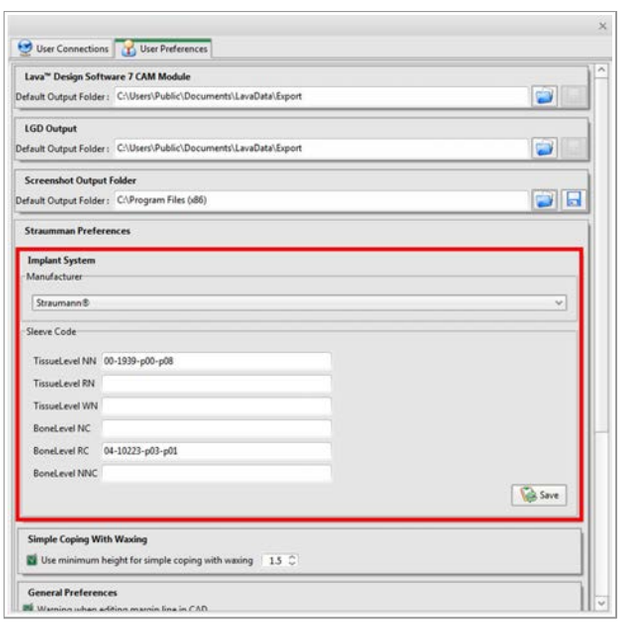
To be able to use the wax-up abutment function in the Straumann® CARES® Visual 8.0 software, you have first to register your wax-up sleeve holder by entering its code. All wax-up sleeve holders supplied have been individually measured after manufacturing and given a unique code. This code ensures the correct alignment of the milled abutment.

Before creating the first order for a wax-up abutment:

- Start the Straumann® CARES® Visual 8.0 software and select the **User Preferences** icon at the bottom right of the screen.

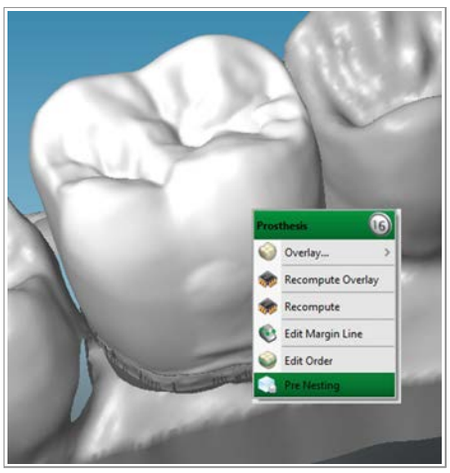


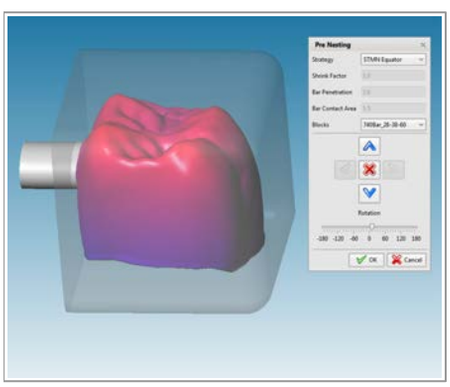

- In the new window, switch to the **User Preferences** tab. Choose a manufacturer and enter the codes of your personal wax-up sleeve holders.
- Click **Save** to finish registration.



### 9.5.3 Prenesting

Use the prenesting tool to position the sprue on the restoration. The **prenesting tool** is available in the **context menu**. The restoration is set by rotation. Optimize the location by using the arrows to highlight the sprue.



# 10. DISCLAIMER

The content of this manual is designed for users of the Straumann® CARES® Visual 8.0 software who have certain experience with CADCAM systems and are now looking for more detailed information on certain topics.

Depending on the regulatory registration in different countries, not all of the functions may be available in all countries.

The Straumann® CARES® Visual 8.0 is based on the DWOS® (Dental Wings Open Software) architecture and contains the principal functions. If required, Straumann can provide further detailed information. DWOS® is a registered trademark of Dental Wings Inc., Canada.

In general, if you have further questions about the Straumann® CARES® Visual 8.0 software, please contact Straumann via www.straumann.com.

# 11. ANNEX

## 11.1 Prosthesis family overview

| Prosthesis family | Prosthesis subtype | |
|---|---|---|
| **Crowns** | | |
| | Simple coping | Simple coping with consistent wall thickness. The design can be modified by transforming tool, add/remove material and by adding a collar. |
| | Clinical coping | Clinical coping is built up against the designed anatomy. You can change it by using the clinical handles, add/remove material, and by adding a collar. |
| | Simple coping with anatomy | Simple coping with displayed anatomy. Changing the anatomy does not affect the coping. You can modify it by using the wax tools, or add a collar. This will be adapted to the surface of the displayed anatomy. |
| | Reduced crown | The reduced design is affected by changing the anatomy. You can also modify the object by add/remove material and the clinical handles. The metal backing will be adapted to the anatomy surface. |
| | Full crown | Full anatomic crown without reduction for veneering. You can use all available tools. |
| | Telescopic coping | Use this type to design telescopic crowns with defined angled friction surfaces. |
| **Pontics** | | |
| | Reduced pontic | Reduced pontic with defined space for veneering. |
| | Full pontic | Full anatomic pontic design which can be modified with all available tools. |
| **Inlays** | | |
| | Inlay | Full anatomic inlay design without anatomic overlay. |
| | Onlay | Full anatomic onlay design without anatomic overlay. |
| | Inlay shell | Inlay shell as base for future veneering. |
| | Partial crown | Full anatomic partial crown design without anatomic overlay. |
| | Anatomical veneer | Full anatomic veneer design, with overlapping Incisal edge. |
| | Buccal veneer | Full anatomic veneer design on Buccal surface, without overlapping incisal edge. |
| | Veneer shell | Veneer shell as base for future veneering. |

| Prosthesis family | Prosthesis subtype | |
|---|---|---|
| | Reduced incisal veneer | Reduced full anatomic veneer design, with overlapping Incisal edge, for future veneering. |
| | Reduced buccal veneer | Reduced full anatomic veneer design on Buccal surface, without overlapping incisal edge. |
| **Abutments** | | |
| | Full crown on implant | Full anatomic abutments design. The implant position is detected via the scanbody detection within the model scan. (only available with SR Bridge) |
| | Reduced crown on implant | Reduced anatomic abutment design. The implant position is detected via the scanbody detection within the model scan. |
| | Bar pillar | Pillar to design screw retained bars. The bars will be inserted automatically between the defined pillars. |
| | Custom abutment | Customized abutment via scanbody detection. The design of the meso structure is adapted to the displayed anatomy surface. |
| | Custom abutment with waxing | Create the customized abutment via scanning your wax design, with the corresponding abutment holder. |
| **Waxings** | | |
| | Simple coping with waxing | Design a simple coping by scanning your wax design. |

## 11.2 Product–material–matrix

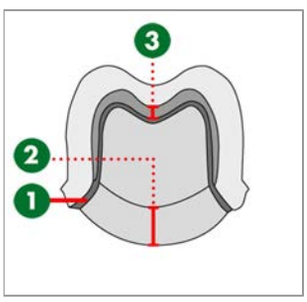
| Product | Prosthesis family | Material | Implant kit | Prosthesis subtype |
|---|---|---|---|---|
| **CARES® abutment, ZrO2** | Abutments | **CARES® Abutment, ZrO2** | NC/RC/ NN/RN | Custom abutment |
| | | | | Reduced crown on implant |
| | | | | Custom abutment with waxing |
| **CARES® abutment, Ti** | Abutments | **CARES® Abutment, Ti** | NC/RC/ NN/RN/ WN | Custom abutment |
| | | | | Custom abutment with waxing |
| **CARES® Variobase™ abutment** | Abutments | **zerion® ZrO2 (also for Variobase™)** | NC/RC/ NNC/RN/ WN | Custom abutment |
| | | | | Reduced crown on implant |
| | | | | Custom abutment with waxing |
| **CARES® Variobase™ coping** | Abutments | **zerion® ZrO2 (also for Variobase™)** | NOBEL/ CAMLOG | Custom abutment with waxing |
| **CARES® Variobase™ temporary abutment** | Abutments | **polycon® ae (also for Variobase™)** | NC/RC/ NNC/RN/ WN | Custom abutment |
| | | | | Reduced crown on implant |
| | | | | Custom abutment with waxing |
| | | | | Full crown on implant |
| **CARES® Variobase™ coping** | Abutments | **polycon® ae (also for Variobase™)** | NOBEL/ CAMLOG | Custom abutment with waxing |
| **CARES® screw-ret. bridge** | Abutments | **CARES® SRBB, Ti CARES® SRBB, coron®** | NC/RC/ RN/WN | Full crown on implant,reduced crown on implant |
| **CARES® screw-ret. bridge** | Pontics | **CARES® SRBB, Ti** | n/a | Reduced pontic Full pontic |
| **CARES® bar** | Abutments | **CARES® SRBB, coron®** | NC/RC/ RN/WN | Bar pillar |

## 11.3 Instructions for setting parameters

The following information are supposed to help you on setting the die parameters for the Straumann® CARES® Visual 8.0 software. These information apply to all materials and are provided to optimize the individual fit. We generally advise you to use default settings or to make only minor adjustments.

**Parameters:**

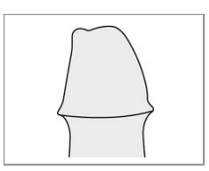
- settable parameters:




**1.** Cement gap
**2.** Collar position
**3.** Extra vertical gap

**Normal preparation:**

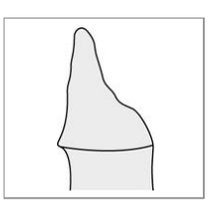
- no parameter adjustments necessary



**Sharp incisal edge:**

- increase extra vertical gap

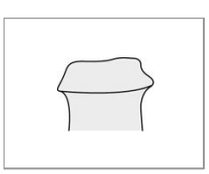
📖 Note: Increase collar position additionally by extreme shoulder.



by approx.
0.01 – 0.02 mm

**Flat preparation, very conical preparation:**

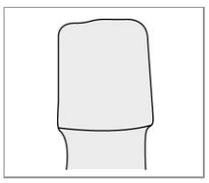
- Increase Collar position (up to max. 2/3 of die height) to achieve friction
- Reduce Cement gap for a tighter fit



by approx.
0.01 – 0.02 mm

**Preparation with parallel walls without shoulder:**

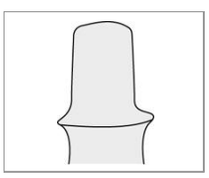
- Increase Cement gap to achieve a looser fit
- Reduce Cement gap if a tighter fit should be achieved



by approx.
0.01 – 0.02 mm

**Preparation with parallel walls and shoulder:**

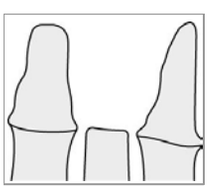
- Reduce Extra vertical gap
- Increase Cement gap to achieve a looser fit
- Reduce Cement gap if a tighter fit should be achieved



by approx.
0.01 – 0.02 mm

**Parallel walls on bridges:**

- Reduce Collar position
- Increase Cement gap to achieve a looser position



by approx.
0.01 – 0.02 mm

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